IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:	Chapter 11
FTX TRADING LTD., *et al.*,[1]	Case No. 22-11068 (JTD)
Debtors.	(Jointly Administered)

DECLARATION OF BENJAMIN S. BELLER IN SUPPORT OF
DEBTORS' OBJECTION TO THE MOTION OF THE JOINT LIQUIDATORS OF
THREE ARROWS CAPITAL, LTD. (IN LIQUIDATION) FOR
LEAVE TO AMEND PROOF OF CLAIM

I, Benjamin S. Beller, hereby declare under penalty of perjury:

1. I am a member in good standing of the Bar of the State of New York and have been admitted *pro hac vice* to practice before this Court. I am a partner of Sullivan & Cromwell LLP and am one of the attorneys representing FTX Trading Ltd. and the other Debtors and Debtors-in-Possession in the above-captioned proceedings. I submit this declaration in support of the *Debtors' Objection to the Motion of the Joint Liquidators of Three Arrows Capital, Ltd. (in Liquidation) for Leave to Amend Proof of Claim* (the "Objection"), filed concurrently herewith, to place before the Court certain documents referenced in the Objection.[2]

2. Attached hereto as Exhibit A is a true and correct copy of data related to 3AC's Line of Credit exported from the FTX.com exchange bearing production number

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[1]   The last four digits of FTX Trading Ltd.'s and Alameda Research LLC's tax identification number are 3288 and 4063 respectively. Due to the large number of debtor entities in these Chapter 11 Cases, a complete list of the Debtors and the last four digits of their federal tax identification numbers is not provided herein. A complete list of such information may be obtained on the website of the Debtors' claims and noticing agent at https://cases.ra.kroll.com/FTX. The principal place of business of Debtor Emergent Fidelity Technologies Ltd is Unit 3B, Bryson's Commercial Complex, Friars Hill Road, St. John's, Antigua and Barbuda.

[2]   Defined terms used but not otherwise defined herein shall have the meanings ascribed to them in the Objection.

FTX_3AC_000000054, which was produced by the Debtors to the Joint Liquidators then converted to Portable Document Format ("PDF").

      3.   Attached hereto as Exhibit B is a true and correct copy of a July 1, 2022 letter from the Joint Liquidators to FTX bearing production numbers FTX_3AC_000001074 through FTX_3AC_000001076, which was produced by the Debtors to the Joint Liquidators.

      4.   Attached hereto as Exhibit C is a true and correct copy of a July 7, 2022 email from Karthik Bhavaraju bearing production numbers 3AC-FTX-00526796 through 3AC-FTX-00526797, which was produced by the Joint Liquidators to the Debtors.

      5.   Attached hereto as Exhibit D is a true and correct copy of a July 14, 2022 email from Ashley Bethel bearing production numbers FTX_3AC_000001234 through FTX_3AC_000001246, which was produced by the Debtors to the Joint Liquidators.

      6.   Attached hereto as Exhibit E is a true and correct copy of a July 19, 2022 email from Christopher Farmer bearing production numbers 3AC-FTX-00526884 through 3AC-FTX-00526885, which was produced by the Joint Liquidators to the Debtors.

      7.   Attached hereto as Exhibit F is a true and correct copy of a September 27, 2022 email from Ashley Bethel bearing production numbers 3AC-FTX-00526961 through 3AC-FTX-00526966, which was produced by the Joint Liquidators to the Debtors.

      8.   Attached hereto as Exhibit G is a true and correct copy of a October 20, 2022 email from Christian Fay bearing production numbers 3AC-FTX-00008188 through 3AC-FTX-00008216, which was produced by the Joint Liquidators to the Debtors.

      9.   Attached hereto as Exhibit H is a true and correct copy of a November 10, 2022 email from Christian Fay bearing production numbers 3AC-FTX-00008322 through 3AC-FTX-00008329, which was produced by the Joint Liquidators to the Debtors.

10.   Attached hereto as Exhibit I is a true and correct copy of a screenshot of a post by Kyle Davies (@KyleLDavies) dated December 9, 2022, which was accessed from X (former known as Twitter) at https://x.com/KyleLDavies/status/1601140724984033280 on December 3, 2024.

11.   Attached hereto as Exhibit J is a true and correct copy of a May 2022 NAV Pack bearing production number FTX-3AC-00524000, which was produced by the Joint Liquidators to the Debtors then converted to PDF.

12.   Attached hereto as Exhibit K is a true and correct copy of the "FTX Features Overview" page on help.ftx.com as it was publicly available prior to November 1, 2024. Exhibit K was retrieved on December 3, 2024 by the financial advisors to the Debtors from the Debtors' web hosting platform, Zendesk, where it was previously archived.

13.   Attached hereto as Exhibit L is a true and correct copy of the "OTC Guide" page on help.ftx.com as it was publicly available prior to November 2, 2024. Exhibit L was retrieved on December 4, 2024 by the financial advisors to the Debtors from the Debtors' web hosting platform, Zendesk, where it was previously archived.

14.   Attached hereto as Exhibit M is a true and correct copy of the "API Documentation" page on docs.ftx.com as of August 8, 2022, which was accessed at https://web.archive.org/web/20220808123956/https:/docs.ftx.com/#overview on December 4, 2024.

15.   Attached hereto as Exhibit N is a true and correct copy of the "Historical Data" page on help.ftx.com as it was publicly available prior to May 24, 2023. Exhibit N was retrieved on December 4, 2024 by the financial advisors to the Debtors from the Debtors' web hosting platform, Zendesk, where it was previously archived.

16.   Attached hereto as <u>Exhibit O</u> is a true and correct copy of the Original Proof of Claim against FTX Trading Ltd.

17.   Attached hereto as <u>Exhibit P</u> is a true and correct copy of the transcript of the November 25, 2024 deposition of Mr. Crumpler, both in his personal capacity and as a representative of the Joint Liquidators pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure.

18.   Between the Petition Date and June 28, 2023, the Joint Liquidators did not make any requests for information from the Debtors.

19.   The Joint Liquidators did not serve any formal discovery requests on the Debtors pursuant to Bankruptcy Rule 2004 prior to the June 30, 2023 non-customer bar date.

20.   On December 14, 2023, the Debtors produced to the Joint Liquidators transactional data associated with the 3AC Accounts. This production included 72 spreadsheets of exchange data.   The Debtors made additional productions on January 8, January 12, and January 20, 2024. The produced materials included (i) line of credit agreements entered into between the Debtors and 3AC, including drafts; and (ii) emails, communications, and other materials pertaining to transactions between the Debtors and 3AC. The four productions in response to the Joint Liquidators' informal October 27, 2023 diligence requests consisted of 4,166 documents and 13,663 pages of materials.

21.   On December 15 and 20, 2023, the Joint Liquidators made two productions to the Debtors. Those productions included NAV packs prepared by Ascent.

22.   On February 7, 2024, the Joint Liquidators sent the Debtors a set of informal interrogatories related to the productions made by the Debtors, which was amended on March 8, 2024 (the "<u>Informal Interrogatories</u>").

23.   At the request of the Joint Liquidators, the Debtors arranged a meeting via video-conference on March 19, 2024 with counsel to the Joint Liquidators, counsel to the Debtors, and the financial advisors to both parties. During that meeting, the Debtors' financial advisor provided responses and explanations to representatives of the Joint Liquidators with respect to the Informal Interrogatories. Debtors' counsel also indicated during that meeting that should there be any technical issues with viewing the large spreadsheets produced by the Debtors, the Debtors' financial advisor would be able to assist.

24.   The Joint Liquidators never requested technical assistance in viewing the large spreadsheets from the Debtors, their counsel, or their financial advisor.

25.   In the following weeks, the Debtors, through their financial advisor, provided additional explanation and responses to the Joint Liquidators' counsel via email. Attached hereto as Exhibit Q is a true and correct copy of the April 5, 2024 email from the Joint Liquidators' counsel to the Debtors' counsel and the Debtors' financial advisor.

26.   Since July 2024 to the present, the Joint Liquidators have continued to serve discovery requests on the Debtors.

27.   On August 1, 2024, the Debtors and the Joint Liquidators met and conferred regarding the date and scope of the 30(b)(6) deposition of the Debtors noticed by the Joint Liquidators. The Debtors agreed to produce a witness to address all topics noticed by the Joint Liquidators except for Topic No. 11, which relates to loans made by a third-party to 3AC and is not relevant to any matter between 3AC and the Debtors. On that same call, the Joint Liquidators first informed the Debtors of their intention to seek amendment of their claim after the deposition. The Joint Liquidators did not state the scale, factual basis, or nature of their intended amended claims during the August 1, 2024 call.

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28.   The 30(b)(6) deposition of the Debtors took place on September 19, 2024. During the deposition, the Debtors' 30(b)(6) designee (the "30(b)(6) Witness"), Robert Gordon of Alvarez & Marsal, testified on the Debtors' behalf for over five hours covering 15 topics noticed by the Joint Liquidators.

Dated: December 5, 2024   */s/ Benjamin S. Beller*
                                           Benjamin S. Beller

Exhibit A

user_id	main_account_id	username	id	account_id	size	created_at	notes	admin_id	destination_not_credited	destination_account_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4664	2,338,882	10,000,000	2020-09-30 03:57:52	SBF 2020-09-30		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6568	2,338,882	10,000,000	2021-03-02 15:04:59			FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	9670	2,338,882	99,999,999	2021-10-26 18:15:07	LOC	auth0|5e6afa740318890c8b4bda60	FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	9671	2,338,882	1	2021-10-26 18:15:19		auth0|5e6afa740318890c8b4bda60	FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41598	2,338,882	99,999,999	2022-06-14 22:29:25	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41599	2,338,882	-99,999,999	2022-06-14 22:29:34	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41600	2,338,882	-99,999,999	2022-06-14 22:29:35	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41601	2,338,882	20,000,001	2022-06-14 22:29:54	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41604	2,338,882	-19,999,999	2022-06-14 22:30:11	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41605	2,338,882	-19,999,999	2022-06-14 22:30:12	Reversing LOC		FALSE	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	41606	2,338,882	-4	2022-06-14 22:30:25	Reversing LOC		FALSE	

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	662	2,338,882	2021-10-27 00:30:19	17,413,615.07	3,816.72	114,568,023
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	696	2,338,882	2021-10-28 00:30:10	26,039,239.82	5,707.28	116,604,031
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	729	2,338,882	2021-10-29 00:30:20	37,333,708.01	8,182.80	118,658,563
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	769	2,338,882	2021-10-30 00:30:34	81,825,359.04	17,934.48	120,751,578
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	795	2,338,882	2021-10-31 00:30:10	79,022,996.88	17,320.26	122,877,724
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	834	2,338,882	2021-11-01 00:30:30	82,818,426.20	18,152.14	125,040,524
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	864	2,338,882	2021-11-02 00:30:13	98,599,518.05	21,611.04	127,229,754
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	902	2,338,882	2021-11-03 00:30:20	116,441,880.07	25,521.73	129,459,763
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	935	2,338,882	2021-11-04 00:30:20	117,991,766.41	25,861.44	131,716,072
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	961	2,338,882	2021-11-05 00:30:15	114,816,901.53	25,165.57	134,012,892
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	994	2,338,882	2021-11-06 00:30:11	110,452,328.48	24,208.94	136,336,310
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,040	2,338,882	2021-11-07 00:30:30	104,990,145.91	23,011.74	138,683,974
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,076	2,338,882	2021-11-08 00:30:40	108,680,014.43	23,820.49	141,054,622
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,099	2,338,882	2021-11-09 00:30:22	109,761,962.45	24,057.63	143,455,827
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,140	2,338,882	2021-11-10 00:30:45	90,778,574.08	19,896.85	145,896,624
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,171	2,338,882	2021-11-11 00:30:42	60,671,246.11	13,297.92	148,366,851
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,202	2,338,882	2021-11-12 00:30:53	70,401,108.76	15,430.52	150,864,305
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,226	2,338,882	2021-11-13 00:30:49	40,702,148.32	8,921.10	153,404,916
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,272	2,338,882	2021-11-14 00:31:40	50,370,253.10	11,040.15	155,948,323
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,307	2,338,882	2021-11-15 00:31:29	57,949,095.60	12,701.28	158,510,798
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,332	2,338,882	2021-11-16 00:31:28	31,503,945.18	6,905.03	161,100,466
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,364	2,338,882	2021-11-17 00:31:16	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,395	2,338,882	2021-11-18 00:31:01	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,423	2,338,882	2021-11-19 00:30:16	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,469	2,338,882	2021-11-20 00:31:19	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,500	2,338,882	2021-11-21 00:30:48	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,531	2,338,882	2021-11-22 00:31:04	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,571	2,338,882	2021-11-23 00:33:43	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,603	2,338,882	2021-11-24 00:33:30	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,618	2,338,882	2021-11-25 00:30:35	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,653	2,338,882	2021-11-26 00:31:08	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,689	2,338,882	2021-11-27 00:32:00	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,721	2,338,882	2021-11-28 00:31:13	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,770	2,338,882	2021-11-29 00:34:54	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,787	2,338,882	2021-11-30 00:31:27	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,825	2,338,882	2021-12-01 00:31:55	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,858	2,338,882	2021-12-02 00:33:33	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,898	2,338,882	2021-12-03 00:33:43	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,931	2,338,882	2021-12-04 00:34:23	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,969	2,338,882	2021-12-05 00:34:12	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	1,994	2,338,882	2021-12-06 00:33:59	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,032	2,338,882	2021-12-07 00:33:51	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,065	2,338,882	2021-12-08 00:33:29	0	0	

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,098	2,338,882	2021-12-09 00:34:34	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,128	2,338,882	2021-12-10 00:33:42	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,156	2,338,882	2021-12-11 00:32:27	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,197	2,338,882	2021-12-12 00:33:17	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,228	2,338,882	2021-12-13 00:32:57	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,247	2,338,882	2021-12-14 00:30:42	1,570,019.19	344.1168069	231,141,196
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,284	2,338,882	2021-12-15 00:31:28	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,328	2,338,882	2021-12-16 00:33:27	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,352	2,338,882	2021-12-17 00:32:48	53,734,184.62	11,777.46	238,954,090
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,385	2,338,882	2021-12-18 00:31:27	104,757,117.45	22,960.67	241,533,763
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,421	2,338,882	2021-12-19 00:32:13	108,834,605.19	23,854.37	244,247,412
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,453	2,338,882	2021-12-20 00:33:07	115,046,247.40	25,215.84	246,966,516
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,487	2,338,882	2021-12-21 00:31:56	115,056,794.47	25,218.15	249,300,440
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,509	2,338,882	2021-12-22 00:30:19	115,065,332.95	25,220.02	252,035,950
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,545	2,338,882	2021-12-23 00:30:58	115,075,911.05	25,222.34	254,787,496
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,585	2,338,882	2021-12-24 00:32:19	47,242,580.86	10,354.63	257,555,947
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,631	2,338,882	2021-12-25 00:35:12	92,660,669.52	20,309.37	260,343,707
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,642	2,338,882	2021-12-26 00:30:54	92,119,645.45	20,190.78	263,008,502
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,687	2,338,882	2021-12-27 00:33:45	92,567,157.27	20,288.87	265,684,476
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,728	2,338,882	2021-12-28 00:35:02	66,580,290.30	14,593.07	268,509,922
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,750	2,338,882	2021-12-29 00:32:47	115,173,433.13	25,243.71	270,400,268
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,806	2,338,882	2021-12-30 00:30:50	115,160,546.41	25,240.89	272,162,519
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	2,941	2,338,882	2022-01-03 00:31:11	115,406,940.47	25,294.89	282,293,433
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,016	2,338,882	2022-01-05 00:37:20	115,426,447.68	25,299.17	308,869,549
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,086	2,338,882	2022-01-08 00:31:30	115,467,293.58	25,308.12	319,034,827
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,106	2,338,882	2022-01-09 00:30:32	115,446,640.61	25,303.59	322,449,527
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,149	2,338,882	2022-01-10 00:31:13	115,468,082.48	25,308.29	325,858,116
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,188	2,338,882	2022-01-11 00:31:34	115,466,535.61	25,307.96	329,278,860
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,210	2,338,882	2022-01-12 00:30:34	115,518,703.99	25,319.39	332,716,690
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,256	2,338,882	2022-01-13 00:32:32	115,721,249.79	25,363.78	336,179,763
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,275	2,338,882	2022-01-14 00:30:37	115,680,741.33	25,354.90	339,515,524
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,313	2,338,882	2022-01-15 00:31:12	115,722,162.73	25,363.98	343,003,270
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,340	2,338,882	2022-01-16 00:30:49	115,733,358.35	25,366.44	346,499,084
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,368	2,338,882	2022-01-17 00:30:18	115,741,325.10	25,368.18	350,003,740
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,419	2,338,882	2022-01-18 00:31:17	115,721,220.46	25,363.78	353,510,615
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,442	2,338,882	2022-01-19 00:30:38	115,712,130.49	25,361.78	357,012,677
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,477	2,338,882	2022-01-20 00:31:45	115,687,034.44	25,356.28	360,512,578
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,522	2,338,882	2022-01-21 00:33:03	115,692,437.56	25,357.47	364,024,565
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,549	2,338,882	2022-01-22 00:32:11	114,020,828.86	24,991.09	367,527,615
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,585	2,338,882	2022-01-23 00:30:45	113,941,122.18	24,973.62	370,999,219
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,602	2,338,882	2022-01-24 00:30:18	113,944,084.46	24,974.26	374,469,065
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,633	2,338,882	2022-01-25 00:30:29	113,936,666.10	24,972.64	377,943,107
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,667	2,338,882	2022-01-26 00:30:18	113,959,718.36	24,977.69	381,440,129

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,716	2,338,882	2022-01-27 00:31:18	113,944,246.75	24,974.30	384,966,680
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,740	2,338,882	2022-01-28 00:30:36	113,921,909.40	24,969.40	388,504,428
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,764	2,338,882	2022-01-29 00:30:15	113,951,149.76	24,975.81	392,056,789
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,802	2,338,882	2022-01-30 00:30:25	56,235,807.93	12,325.76	395,630,965
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,830	2,338,882	2022-01-31 00:30:24	62,690,829.88	13,740.58	399,218,634
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,867	2,338,882	2022-02-01 00:31:22	44,126,760.24	9,671.70	402,813,020
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,896	2,338,882	2022-02-02 00:30:21	34,731,269.33	7,612.40	406,438,009
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,950	2,338,882	2022-02-03 00:31:14	62,232,360.38	13,640.09	410,070,984
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	3,961	2,338,882	2022-02-04 00:30:14	46,696,279.36	10,234.89	413,700,464
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,011	2,338,882	2022-02-05 00:30:38	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,049	2,338,882	2022-02-06 00:30:55	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,064	2,338,882	2022-02-07 00:30:30	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,106	2,338,882	2022-02-08 00:30:34	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,149	2,338,882	2022-02-09 00:31:05	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,170	2,338,882	2022-02-10 00:30:43	12,589,755.95	2,759.42	435,972,804
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,194	2,338,882	2022-02-11 00:30:12	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,242	2,338,882	2022-02-12 00:31:02	44,532,439.76	9,760.62	443,524,129
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,265	2,338,882	2022-02-13 00:30:35	26,676,740.87	5,847.01	447,298,063
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,296	2,338,882	2022-02-14 00:30:29	34,621,872.95	7,588.42	451,079,543
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,338	2,338,882	2022-02-15 00:30:42	72,482,789.81	15,886.78	454,862,098
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,369	2,338,882	2022-02-16 00:30:29	44,120,131.02	9,670.25	458,668,059
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,399	2,338,882	2022-02-17 00:30:31	75,738,957.76	16,600.46	462,483,048
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,424	2,338,882	2022-02-18 00:30:22	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,477	2,338,882	2022-02-19 00:30:43	44,831,671.71	9,826.21	470,104,925
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,508	2,338,882	2022-02-20 00:31:13	48,948,501.54	10,728.53	473,909,214
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,543	2,338,882	2022-02-21 00:31:10	74,761,659.63	16,386.26	477,701,225
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,569	2,338,882	2022-02-22 00:30:40	113,267,773.00	24,826.03	481,499,965
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,598	2,338,882	2022-02-23 00:30:35	95,458,127.21	20,922.51	485,293,565
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,633	2,338,882	2022-02-24 00:30:47	113,004,561.96	24,768.34	489,115,990
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,676	2,338,882	2022-02-25 00:31:13	99,184,371.91	21,739.23	492,920,763
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,696	2,338,882	2022-02-26 00:30:43	81,857,260.83	17,941.47	496,797,698
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,729	2,338,882	2022-02-27 00:30:28	90,431,053.15	19,820.68	500,686,355
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,773	2,338,882	2022-02-28 00:30:56	113,215,985.56	24,814.68	504,572,956
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,805	2,338,882	2022-03-01 00:30:49	23,828,477.25	5,222.73	508,467,208
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,831	2,338,882	2022-03-02 00:30:38	16,046,876.39	3,517.15	512,386,061
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,862	2,338,882	2022-03-03 00:30:49	33,775,136.38	7,402.83	516,315,475
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,885	2,338,882	2022-03-04 00:30:12	74,121,604.12	16,245.97	520,247,847
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,928	2,338,882	2022-03-05 00:30:29	113,377,083.74	24,849.99	524,183,969
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,952	2,338,882	2022-03-06 00:30:17	113,597,466.24	24,898.29	528,122,652
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	4,989	2,338,882	2022-03-07 00:30:22	113,383,600.06	24,851.42	532,068,439
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,038	2,338,882	2022-03-08 00:31:10	113,372,234.91	24,848.93	536,015,739
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,061	2,338,882	2022-03-09 00:30:34	113,447,072.76	24,865.33	539,975,565
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,091	2,338,882	2022-03-10 00:30:27	30,543,674.78	6,694.56	543,954,344

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,123	2,338,882	2022-03-11 00:31:07	102,922,176.43	22,558.48	547,939,399
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,154	2,338,882	2022-03-12 00:31:25	85,306,995.61	18,697.59	551,929,863
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,184	2,338,882	2022-03-13 00:30:41	87,039,283.58	19,077.27	555,926,158
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,215	2,338,882	2022-03-14 00:30:42	103,428,972.67	22,669.56	559,929,570
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,258	2,338,882	2022-03-15 00:33:14	80,161,518.40	17,569.80	563,937,067
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,305	2,338,882	2022-03-16 00:35:13	79,029,829.13	17,321.76	567,954,319
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,337	2,338,882	2022-03-17 00:35:47	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,362	2,338,882	2022-03-18 00:33:32	12,174,545.44	2,668.42	576,032,182
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,391	2,338,882	2022-03-19 00:32:54	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,437	2,338,882	2022-03-20 00:34:58	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,455	2,338,882	2022-03-21 00:32:19	12,853,956.86	2,817.33	588,294,008
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,500	2,338,882	2022-03-22 00:34:57	25,781,356.78	5,650.76	592,551,325
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,533	2,338,882	2022-03-23 00:34:55	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,561	2,338,882	2022-03-24 00:32:50	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,583	2,338,882	2022-03-25 00:30:26	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,623	2,338,882	2022-03-26 00:33:07	40,818,342.57	8,946.56	609,168,799
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,668	2,338,882	2022-03-27 00:34:24	38,043,280.47	8,338.33	613,355,857
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,686	2,338,882	2022-03-28 00:31:50	36,451,698.19	7,989.48	617,561,544
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,727	2,338,882	2022-03-29 00:34:29	41,305,752.40	9,053.39	621,785,936
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,749	2,338,882	2022-03-30 00:31:50	65,636,260.19	14,386.16	626,024,166
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,781	2,338,882	2022-03-31 00:31:22	51,728,379.92	11,337.83	630,275,572
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,820	2,338,882	2022-04-01 00:32:39	66,471,995.57	9,106.00	634,546,701
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,863	2,338,882	2022-04-02 00:34:34	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,885	2,338,882	2022-04-03 00:32:33	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,916	2,338,882	2022-04-04 00:31:37	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,962	2,338,882	2022-04-05 00:33:14	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	5,978	2,338,882	2022-04-06 00:32:04	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,023	2,338,882	2022-04-07 00:34:25	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,059	2,338,882	2022-04-08 00:33:44	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,098	2,338,882	2022-04-09 00:34:51	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,130	2,338,882	2022-04-10 00:34:59	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,145	2,338,882	2022-04-11 00:30:45	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,188	2,338,882	2022-04-12 00:33:03	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,212	2,338,882	2022-04-13 00:31:47	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,254	2,338,882	2022-04-14 00:32:28	31,295,417.07	4,287.16	691,321,174
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,294	2,338,882	2022-04-15 00:34:59	16,630,110.98	2,278.16	695,766,812
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,323	2,338,882	2022-04-16 00:33:40	14,640,970.62	2,005.67	700,224,211
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,342	2,338,882	2022-04-17 00:31:23	14,450,312.20	1,979.55	704,694,960
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,396	2,338,882	2022-04-18 00:35:00	18,011,139.42	2,467.35	709,176,334
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,406	2,338,882	2022-04-19 00:30:32	99,511,842.03	13,632.13	713,661,348
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,444	2,338,882	2022-04-20 00:31:28	99,472,634.95	13,626.76	718,168,633
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,490	2,338,882	2022-04-21 02:49:25	101,723,029.80	13,935.04	723,072,922
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,509	2,338,882	2022-04-22 00:30:53	100,343,393.47	13,746.04	727,238,290

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,540	2,338,882	2022-04-23 01:40:13	99,585,032.66	13,642.15	731,981,566
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,589	2,338,882	2022-04-24 00:31:19	100,388,527.82	13,752.22	736,360,031
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,618	2,338,882	2022-04-25 00:31:34	103,584,601.44	14,190.05	740,944,758
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,656	2,338,882	2022-04-26 00:32:47	17,770,243.46	2,434.35	745,538,301
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,676	2,338,882	2022-04-27 00:31:03	77,852,033.03	10,664.95	750,149,775
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,722	2,338,882	2022-04-28 00:32:02	82,187,217.57	11,258.83	754,767,984
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,733	2,338,882	2022-04-29 00:30:13	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,779	2,338,882	2022-04-30 00:31:22	4,082,131.15	559.2111469	764,046,083
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,817	2,338,882	2022-05-01 00:31:59	12,213,279.10	1,673.10	768,676,638
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,858	2,338,882	2022-05-02 00:32:55	10,111,713.95	1,385.20	773,288,450
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,880	2,338,882	2022-05-03 00:31:52	18,388,513.57	2,519.04	777,932,799
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,904	2,338,882	2022-05-04 00:30:32	50,095,525.66	6,862.59	782,604,287
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,935	2,338,882	2022-05-05 00:30:21	0	0	
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	6,975	2,338,882	2022-05-06 00:30:23	20,035,152.48	2,744.62	792,018,201
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,013	2,338,882	2022-05-07 00:30:50	58,241,973.20	7,978.57	796,714,501
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,051	2,338,882	2022-05-08 00:30:42	61,954,511.37	8,487.15	801,416,703
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,084	2,338,882	2022-05-09 00:30:53	69,914,603.19	9,577.60	806,086,825
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,110	2,338,882	2022-05-10 00:30:56	103,471,639.30	14,174.58	810,739,918
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,154	2,338,882	2022-05-11 00:30:58	103,952,495.63	14,240.45	815,392,371
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,176	2,338,882	2022-05-12 00:30:30	102,149,101.78	13,993.41	820,017,392
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,196	2,338,882	2022-05-13 00:30:14	102,114,239.10	13,988.63	824,534,141
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,243	2,338,882	2022-05-14 00:31:15	102,740,858.03	14,074.47	829,077,874
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,281	2,338,882	2022-05-15 00:31:11	102,871,376.14	14,092.35	833,697,456
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,294	2,338,882	2022-05-16 00:30:19	103,052,311.82	14,117.14	838,371,328
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,335	2,338,882	2022-05-17 00:30:46	102,926,831.33	14,099.95	843,075,477
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,360	2,338,882	2022-05-18 00:30:11	103,060,802.90	14,118.30	847,817,049
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,410	2,338,882	2022-05-19 00:30:44	103,324,091.01	14,154.37	852,581,472
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,434	2,338,882	2022-05-20 00:30:24	103,365,415.97	14,160.03	857,357,554
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,460	2,338,882	2022-05-21 00:30:14	103,276,540.41	14,147.85	862,155,255
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,504	2,338,882	2022-05-22 00:30:28	103,531,254.71	14,182.75	866,969,830
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,533	2,338,882	2022-05-23 00:30:32	103,570,961.34	14,188.19	871,814,885
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,571	2,338,882	2022-05-24 00:30:31	103,345,378.06	14,157.28	876,688,082
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,593	2,338,882	2022-05-25 00:30:17	103,481,826.45	14,175.98	881,570,335
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,623	2,338,882	2022-05-26 00:30:23	103,433,214.18	14,169.32	886,475,112
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,672	2,338,882	2022-05-27 00:31:00	103,193,555.72	14,136.49	891,384,815
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,693	2,338,882	2022-05-28 00:30:16	103,084,974.62	14,121.61	896,234,537
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,730	2,338,882	2022-05-29 00:30:45	103,140,875.21	14,129.27	901,100,737
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,755	2,338,882	2022-05-30 00:30:33	103,176,975.10	14,134.21	906,044,179
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,781	2,338,882	2022-05-31 00:30:33	103,571,696.40	14,188.29	911,073,553
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,835	2,338,882	2022-06-01 00:30:50	103,456,885.96	14,172.56	916,238,877
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,856	2,338,882	2022-06-02 00:30:13	103,493,445.69	14,177.57	921,452,666
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,891	2,338,882	2022-06-03 00:30:30	103,559,112.10	14,186.56	926,682,288
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,910	2,338,882	2022-06-04 00:30:16	103,301,311.67	14,151.25	931,819,314

user_id	main_account_id	username	id	account_id	created_at	principal	size	balance_change_id
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,947	2,338,882	2022-06-05 00:30:50	103,453,767.67	14,172.13	936,859,444
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,966	2,338,882	2022-06-06 00:30:31	103,571,234.51	14,188.22	941,924,816
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	7,999	2,338,882	2022-06-07 00:30:36	104,760,779.37	14,351.18	947,024,485
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,036	2,338,882	2022-06-08 00:30:37	103,106,170.99	14,124.51	952,146,380
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,056	2,338,882	2022-06-09 00:30:12	103,112,140.75	14,125.33	957,293,466
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,096	2,338,882	2022-06-10 00:30:36	103,085,200.26	14,121.64	962,464,388
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,144	2,338,882	2022-06-11 00:31:11	102,987,220.23	14,108.22	967,645,759
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,156	2,338,882	2022-06-13 00:30:27	100,868,666.21	13,818.00	977,986,742
auth0|5e4e2c7227744d0d97bcd84e	2,338,882	kyle@threearrowscap.com	8,200	2,338,882	2022-06-14 00:30:51	98,145,927.73	13,445.01	983,092,484

Exhibit B

Teneo

3rd Floor
Banco Popular Building
Road Town
Tortola
British Virgin Islands
teneo.com

1 July 2022

FTX

By e-mail: legal@ftx.com

Dear Sirs

Three Arrows Capital, Ltd (in Liquidation) (the "Company")
BVI Company No. 1710531

Please be advised that, on 27 June 2022, Russell Crumpler and Christopher Farmer were appointed Joint Liquidators (the "JLs") of the Company pursuant to an Order of the Eastern Caribbean Supreme Court in the High Court of Justice in the British Virgin Islands. A copy of the sealed Order has been attached for your convenience.

As a result of the JLs' appointment, the Company's directors' powers have ceased and you should only act on the instructions of the JLs.

Information request

I understand that the Company may have held an account(s) with your exchange.

To assist the conduct of the Liquidation, I should be grateful if you would provide by return of email (time being of the essence) for our records:

1. Confirmation as to whether the Company holds or held an account(s) with your exchange and any authorised user IDs associated with that account(s);

2. Confirmation as to whether that account(s) remains active or has been suspended;

3. The current value of any cryptocurrency assets held in that account(s);

4. Details of any cash balances held in the account(s);

5. If the account(s) is maintained in the form of a segregated wallet(s) controlled or owned by the Company, full details in respect of that wallet (including the public and private keys);

6. An asset statement or activity summary as at the close of business on the day prior to our appointment on 27 June 2022;

7. Confirmation whether any transactions have taken place since 27 June 2022, being the date of our appointment, and provide details of the same;

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8. Details of any collateral that you are holding on behalf of the Company, together with details of any guarantees or other contractual arrangements between yourselves and the Company;

9. All Know Your Customer information held by you in respect of the account(s); and

10. If relevant, details of all liquidated positions within the last 60 days.

Request for a meeting

The JLs welcome a meeting to discuss the Company's account(s) with your exchange. Accordingly, please can you provide details of your availability for a meeting at the earliest opportunity, together with proposed attendee(s).

Account management

If an account(s) is held by you in respect of the Company, the JLs request that you immediately prohibit access to the account(s) for any previously authorized user(s). The JLs also request that you provide detailed guidance as to the process for changing the authorized user(s) and effecting the transfer of control of the account(s) to the JLs.

If possible, please also change all of the Company's accounts with your exchange to be titled as follows:

"Russell Crumpler and Christopher Farmer, Joint Liquidators of Three Arrows Capital Ltd (in Liquidation)"

 All accounts should continue on the same contractual terms as previously existed.

For the avoidance of doubt, these accounts are to be operated only on the signature of the JLs. Please note that only the JLs have authority over the Company's assets as of the date the Company was placed into Liquidation.

Ongoing communications

Please amend your records so that all communications between yourselves and the Company are addressed to Teneo (BVI) Limited, 3rd Floor, Banco Popular Building, Road Town, Tortola, British Virgin Islands and 3acliquidation@teneo.com.
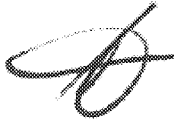
Please acknowledge receipt of this letter by return of email to 3acliquidation@teneo.com.

Should you have any information that you consider relevant to the Liquidation of the Company, or specific matters that you believe the JLs should investigate, please do not hesitate to bring these to our attention using the contact details provided in this letter.

I look forward to hearing from you and thank you for your assistance in this matter.

Teneo   2

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Should you have any queries in relation to this letter, please do not hesitate to contact the team handing this matter at 3acliquidation@teneo.com.

Yours sincerely

Nathan Bickley-May
For and on behalf of the Joint Liquidators of Three Arrows Capital, Ltd (in Liquidation)

The Joint Liquidators were appointed on 27 June 2022 by an Order of the Eastern Caribbean Supreme Court in the High Court of Justice. The Joint Liquidators act as agents of the Company without personal liability.

Teneo   3

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Exhibit C

From:	Karthik Bhavaraju[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=927B188542464CF09F510BCC6 CBE2491-KARTHIK BHA]
Sent:	Thur 7/7/2022 3:29:20 PM (UTC-04:00)
To:	Christopher Farmer[Christopher.Farmer@teneo.com]; Christian Fay[Christian.Fay@teneo.com]; Nathan Bickley-May[Nathan.Bickley-May@teneo.com]
Cc:	3ACLiquidation[3ACLiquidation@teneo.com]
Subject:	Re: 3AC accounts with FTX

Thanks for circulating call notes Christian.

Overall I got the sense that they appreciate the complexities and unprecedented nature of this liquidation. The gc seemed eager to help us in ways beyond sharing this information. So they might be a resource given their reach and influence in the industry.

Separately, while they froze withdrawals they did not prohibit trading, which I thought was an odd approach to things. Post kyc, JLs will have full control. We clarified that both needed to happen.

They will also look at tps activity and share with us.

And finally they think safts (rights to tokens in the future) in the portfolio could be valuable.

From: Christopher Farmer <Christopher.Farmer@teneo.com>
Sent: Thursday, July 7, 2022 3:03:47 PM
To: Christian Fay <Christian.Fay@teneo.com>; Nathan Bickley-May <Nathan.Bickley-May@teneo.com>
Cc: Karthik Bhavaraju <karthik.bhavaraju@teneo.com>; 3ACLiquidation <3ACLiquidation@teneo.com>
Subject: Re: 3AC accounts with FTX

Thanks Christian great news.

Letter approved.

Get Outlook for Android

From: Christian Fay <Christian.Fay@teneo.com>
Sent: Thursday, July 7, 2022 2:43:58 PM
To: Christopher Farmer <Christopher.Farmer@teneo.com>; Nathan Bickley-May <Nathan.Bickley-May@teneo.com>
Cc: Karthik Bhavaraju <karthik.bhavaraju@teneo.com>
Subject: 3AC accounts with FTX

Hi Chris,
Please find a summary of our call with FTX below.
⊠ 220707 File Note minutes - Call with FTX.docx

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3AC-FTX-00526796

Key notes are:
1. the Company holds an account with FTX valued at $3.4m which is comprised entirely of crypto currencies.
2. there was trading in the account as of 6 July 2022. FTX confirmed during the call they had previously frozen withdrawals and deposits and would now freeze the ability to trade
3. FTX is providing a list of KYC info required to change the authorized users to yourself and RC.
4. FTX advised that 3AC likiely also trades on OKX.
    a. Please find attached draft letter to OKX. Is this approved for your signature?

Let us know if you have any queries.
Kind regards,
Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

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3AC-FTX-00526797

Exhibit D

Message
_____

From: Ashley Bethel [abethel@ftxdigitalmarkets.com]
on behalf of Ashley Bethel <abethel@ftxdigitalmarkets.com> [abethel@ftxdigitalmarkets.com]
Sent: 7/14/2022 9:17:49 PM
To: Christian Fay [christian.fay@teneo.com]; legal@ftx.com
CC: Christopher Farmer [christopher.farmer@teneo.com]; 3ACLiquidation [3acliquidation@teneo.com]; can@ftx.com; Jessica Ferguson-Murray [jmurray@ftxdigitalmarkets.com]
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX
Attachments: DeFianceAlpha_deposits.csv; DeFianceAlpha_trades.csv; DefianceJoe_trades.csv; DeFiance_trades.csv; DeFianceAlpha_withdrawals.csv; DefianceJoe_deposits.csv; DefianceJoe2_trades.csv; blocks1_trades.csv; DeFiance_withdrawals.csv; DeFiance_deposits.csv; DefianceJoe_withdrawals.csv; DefianceJoe2_deposits.csv; DefianceJoe2_withdrawals.csv; blocks1_balances.csv; blocks3_deposits.csv; blocks1_withdrawals.csv; blocks3_trades.csv; blocks2_deposits.csv; blocks2_withdrawals.csv; blocks3_withdrawals.csv; Orthogonal1_trades.csv; blocks2_balances.csv; Orthogonal1_withdrawals.csv; DeFiance_balances.csv; Orthogonal_deposits.csv; OXY-IEO_trades.csv; blocks2_trades.csv; blocks_deposits.csv; Orthogonal2_withdrawals.csv; OXY-IEO_deposits.csv; Orthogonal_trades.csv; Orthogonal2_trades.csv; Orthogonal2_deposits.csv; OXY-IEO_withdrawals.csv; main_withdrawals.csv; blocks_balances.csv; main_deposits.csv; main_balances.csv; blocks_withdrawals.csv; blocks1_deposits.csv; blocks_trades.csv; Orthogonal_withdrawals.csv; Orthogonal1_deposits.csv; blocks3_balances.csv

Dear Christian,

As requested, please find attached the deposit, withdrawal and transaction history of Three Arrows Capital. Kindly note that the client had a main account and various sub-accounts.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

On July 13, 2022, 5:56 PM EDT christian.fay@teneo.com wrote:

Hi Ashley,

We are still waiting on our IT team for the new email address.

In the meantime, I understand you were going to provide records of transaction history and withdrawals for the 3AC account. Could you please send these over?

I can create a sharesite if that would be helpful.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

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teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Wednesday, July 13, 2022 4:22 PM
To: Christian Fay <christian.fay@teneo.com>; legal@ftx.com
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; can@ftx.com; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Christian,

Thank you for your email.

Once the new mailbox's setup has been completed, please reply to this email so that the account credentials can be forwarded.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

On July 13, 2022, 4:18 PM EDT christian.fay@teneo.com wrote:

Dear Ashley,

Thank you for your email.

We are setting up a new mailbox for this purpose which will be called 3aclftx@teneo.com.

We hope to have this mailbox active within the next few hours.

Kind regards,

Christian Fay

Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

2

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Wednesday, July 13, 2022 3:59 PM
To: Christian Fay <christian.fay@teneo.com>; legal@ftx.com
Cc: Christopher Farmer <christopher.farmer@teneo.com>; can@ftx.com; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Christian,

I hope that you are well.

We are in the process of disabling all credentials associated with the referenced client's account on our platform. As it relates to giving access to **Russell Crumpler** and **Christopher Farmer,** will the email address of 3acliquidation@teneo.com be used?

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

On July 12, 2022, 2:02 PM EDT christian.fay@teneo.com wrote:

Dear Ashley,

Thank you for your email.

Our legal counsel in the BVI, Ogier, will be reaching out to Can shortly.

Kind regards,

Christian Fay

Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Tuesday, July 12, 2022 1:51 PM

3

To: Christian Fay <christian.fay@teneo.com>; Nathan Bickley-May <nathan.bickley-may@teneo.com>; legal@ftx.com
Cc: 3ACLiquidation <3acliquidation@teneo.com>; Christopher Farmer <christopher.farmer@teneo.com>; Karthik Bhavaraju <karthik.bhavaraju@teneo.com>; NYC-MR-Columbus <nyc-mr-columbus@teneo.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Christian,

Thank you for your email.

With regards to this matter are you able to have your Legal Counsel contact our Legal Counsel - Can Sun, directly? His email address is can@ftx.com.

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

On July 12, 2022, 1:17 PM EDT christian.fay@teneo.com wrote:

Dear Ashley,

Thank you for your email and further confirmation that the name of the account has been changed.

I note we are still waiting for login details so that we may access the Company's account. Can you please confirm whether login details have been created for Chris and Russell? If not, please let me know what is required from our end.

Separately, as discussed on our call, could you please provide us with an asset statement as at today's date and a full trading history for the account as well as any subaccounts for the past 90 days? We also await the same information for the TPS Capital account that we discussed with you on the call.

Lastly, please confirm that no parties other than Chris and Russell are authorized to make trades or withdraw funds in any form or consideration from the account.

Thank you and kind regards,

Christian Fay

Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

4

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Tuesday, July 12, 2022 12:17 PM
To: Nathan Bickley-May <nathan.bickley-may@teneo.com>; Christian Fay <christian.fay@teneo.com>; legal@ftx.com
Cc: 3ACLiquidation <3acliquidation@teneo.com>; Christopher Farmer <christopher.farmer@teneo.com>; Karthik Bhavaraju <karthik.bhavaraju@teneo.com>; NYC-MR-Columbus <nyc-mr-columbus@teneo.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Nathan,

Thank you for your email.

As noted in the letter, the name of the account has been changed to '*Russell Crumpler and Christopher Farmer, Joint Liquidators of Three Arrows Capital Ltd (in Liquidation)*'.

Kindly confirm if there are any additional changes/actions that you are requesting.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

On July 12, 2022, 8:01 AM EDT nathan.bickley-may@teneo.com wrote:
Hi Ashley / Can

Further to my colleague, Christian's email below, please can you provide details of the KYC information you require in order to change the account details to Russell and Chris?

I look forward to hearing from you.

Kind regards

Nathan Bickley-May
Associate Director, Financial Advisory

Teneo
19 Par-La-Ville Road, 3rd Floor
Hamilton HM 11, Bermuda
O: +1441 534 1285
M: Nathan.Bickley-May@teneo.com

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teneo.com

From: Christian Fay <Christian.Fay@teneo.com>
Sent: Thursday, 7 July 2022 3:19 pm
To: legal@ftx.com
Cc: 3ACLiquidation <3ACLiquidation@teneo.com>; Christopher Farmer <Christopher.Farmer@teneo.com>; Nathan Bickley-May <Nathan.Bickley-May@teneo.com>; NYC-MR-Columbus <nyc-mr-columbus@teneo.com>; Karthik Bhavaraju <karthik.bhavaraju@teneo.com>
Subject: RE: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Hi Ashley and Can,

Thank you very much for speaking with us just now.

As discussed, please find attached copy of the Sealed Order by the BVI Court.

We understand that withdrawals and trading in the Company's account have now been frozen and look forward to receiving the list of required KYC information to change the authorized users to Chris and Russell.

Additionally, when putting together the activity statements for the Company's account, can you please include any subaccounts?

Please let us know if you have any queries.

Kind regards,

Christian Fay

Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

-----Original Appointment-----
From: Karthik Bhavaraju <karthik.bhavaraju@teneo.com>
Sent: Thursday, July 7, 2022 1:14 PM
To: Christian Fay
Subject: FW: Three Arrows Capital Ltd - In Liquidation | Letter to FTX
When: Thursday, July 7, 2022 1:30 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

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-----Original Appointment-----
From: Karthik Bhavaraju
Sent: Wednesday, July 6, 2022 11:19 PM
To: Karthik Bhavaraju; legal@ftx.com
Cc: 3ACLiquidation; Christopher Farmer; Nathan Bickley-May; NYC-MR-Columbus
Subject: Three Arrows Capital Ltd - In Liquidation | Letter to FTX
When: Thursday, July 7, 2022 1:30 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting

Microsoft Teams meeting

Join on your computer or mobile app

Click here to join the meeting

Or join by entering a meeting ID
Meeting ID: 231 696 610 910
Passcode: ZZBvFk

Or call in (audio only)

+1 716-304-0726,,923484143#   United States, Niagara Falls

(866) 658-0614,,923484143#   United States (Toll-free)

Phone Conference ID: 923 484 143#

Find a local number | Reset PIN

Learn More | Meeting options

_____

From: legal@ftx.com <legal@ftx.com>
Sent: Wednesday, July 6, 2022 10:04 PM
To: Karthik Bhavaraju <karthik.bhavaraju@teneo.com>
Cc: 3ACLiquidation <3acliquidation@teneo.com>; Christopher Farmer <christopher.farmer@teneo.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Karthik,

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Thank you for getting back to us with your availability. Our team can meet with you tomorrow at 1:30pm NY time. The following individuals will be in attendance:

Can Sun - General Counsel

Ashley Sturrup - Legal Counsel

Jessica Murray - Chief Compliance Officer & MLRO

Ashley Bethel - Compliance Associate

Please feel free to share a meeting link.

Kind regards,

FTX Legal

On July 6, 2022, 9:47 PM EDT karthik.bhavaraju@teneo.com wrote:

Hello:

I am following up on behalf of the liquidation team to set up a call or meeting tomorrow, if possible.

Chris Farmer and Nathan May will join as well depending on their schedules.

Could you please advise on your availability for tomorrow, Thursday July 7? I can speak from 10-1130 am NY time tomorrow or after 130 pm NY time. I may have a conflict from 330-5 pm but can be flexible.

Best

Karthik

Karthik Bhavaraju
Managing Director

Teneo
280 Park Avenue, 4th Floor
New York, NY 10017
O: +1 (212) 593-2255
M: +1 (347) 271-0886
E: karthik.bhavaraju@teneo.com

teneo.com

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From: legal@ftx.com <legal@ftx.com>
Sent: Wednesday, 6 July 2022 2:08 pm
To: Nathan Bickley-May <nathan.bickley-may@teneo.com>
Subject: Re: Three Arrows Capital Ltd - In Liquidation | Letter to FTX

Dear Nathan Bickley-May,

Thank you for contacting the FTX Legal Team. Our team is able to meet with you tomorrow Thursday 7th July or next week Tuesday 12th July. Let me know if that works for you.

Kind regards,

FTX Legal

On July 1, 2022, 3:11 AM EDT nathan.bickley-may@teneo.com wrote:

Dear Sirs

Please see attached letter for your attention.

Kind regards

Nathan Bickley-May
Associate Director, Financial Advisory

Teneo
19 Par-La-Ville Road, 3rd Floor
Hamilton HM 11, Bermuda
O: +1441 534 1285
M: Nathan.Bickley-May@teneo.com

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Exhibit E

From:	Christopher Farmer[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=3925445C0D824039B30797D6C2 998E93-CHRISTOPHER]
Sent:	Tue 7/19/2022 12:58:33 PM (UTC-04:00)
To:	3ACLiquidation[3ACLiquidation@teneo.com]; Russell Crumpler[Russell.Crumpler@teneo.com]; Christian Fay[Christian.Fay@teneo.com]; Nathan Bickley-May[Nathan.Bickley-May@teneo.com]
Subject:	FTX account

Hi all,

Thanks to the efforts of the team we now have access to the FTX account. Please see a snapshot below of the portfolio valued at c.$4.5m.

I believe this roughly aligns with what the directors told us was held there. You will note the majority of the value is held in what are described as locked tokens.

On SRM, I understand that 10% were unlocked last year, hence our small holding (not sure on how the math works). The remaining tokens are subject to a now 6 year lock up period - SRM Unlock. Serum has come a long way since its... | by Project Serum | Medium

On FIDA, the core players of Bonfida, including the seed investors, are locked for the long term. **95.4%** of all FIDA tokens are **locked for four years** and no tokens began to unlock before 12 months from the FIDA IEO and IDO's. $FIDA began unlocking on the 31st of December, 2021.

This is certainly something we are going to need our custodians help with to understand our options/realise value.

Transactions

There is a vast amount of transactional data on the account. The majority of the trf out on the last date of trading, being 14 June 2022 shows c.15,000 ETH being trf out to the Three Arrows tagged wallet - Three Arrows Capital | Address 0x4862733b5fddfd35f35ea8ccf08f5045e57388b3 | Etherscan. We are going to need to start downloading this information (if possible) so that we can run analysis in the future.

I have sole access for now (having set the password) but will discuss separately with Christian and Nathan to grant access.

1

Coin	Balance	Available Balance	↓
Locked FIDA (FIDA_LOCKED)	5,583,466.96017228	5,583,466.96017228	$2,9
Locked Serum (SRM_LOCKED)	1,163,970.76823809	64.24033662	$1,3
Locked Pyth (PYTH_LOCKED)	4,166,667.00000000	4,166,667.00000000	$25
Serum (SRM)	8,479.61570304	0.00000000	
Locked Luna2 (LUNA2_LOCKED)	1,417.85118600	1,417.85118600	
Bonfida Token (FIDA)	3,060.38784096	0.00000000	
Luna 2.0 (LUNA2)	607.65050840	607.65050840	
KeeperDAO (ROOK)	1.50064719	1.50064719	

Christopher Farmer
Senior Managing Director
Financial Advisory

Teneo
3rd Floor
Banco Popular Building
Road Town
Tortola, VG-1110

M: +1 284 343 0755
E: christopher.farmer@teneo.com

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2

Exhibit F

From:	Ashley Bethel[abethel@ftxdigitalmarkets.com]
Sent:	Tue 9/27/2022 2:43:37 PM (UTC-04:00)
To:	Christian Fay[christian.fay@teneo.com]
Cc:	Christopher Farmer[christopher.farmer@teneo.com]; 3ACLiquidation[3acliquidation@teneo.com]; legal@ftx.com[legal@ftx.com]; Jessica Ferguson-Murray[jmurray@ftxdigitalmarkets.com]
Subject:	Re: 3AC - account history
Attachment:	3aclftx@teneo.com_alltime_withdrawals.csv
Attachment:	3aclftx@teneo.com_alltime_deposits.csv

External (abethel@ftxdigitalmarkets.com)

Report This Email FAQ Protection by Teneo

Dear Christian,

Thank you for your email.

As requested, please find attached the requested Transaction History in the referenced format.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

.

> On September 26, 2022, 5:48 PM EDT christian.fay@teneo.com wrote:
>
> Dear Ashley,
> Thank you for your email.
> I have reviewed the attached deposit/withdrawal schedules and note that account the history begins at 00:20 on 1 January 2021. Can you please also provide the account activity in 2020?
> Can we also obtain all of the deposit and withdrawal history in the same format as 'main_deposits.csv' and 'main_withdrawals.csv'? This will allow us to see where the funds are originating and where the transfers are going.
> Kind regards,
>
> Christian Fay
> Consultant
>
> Teneo
> 3rd Floor, Banco Popular Building
> Road Town, Tortola VG-1110

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3AC-FTX-00526961

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From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Monday, September 19, 2022 9:14 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; legal@ftx.com
Subject: Re: 3AC - account history

Dear Christian,
Thank you for your email.
Please note that I may have to refer you to another department to assist with this query; however, I do believe that there were various 'Trades' placed after the deposit was made. Kindly note that all trades can be found in the 'Fills' tab.
Regards,
Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

.

On September 19, 2022, 12:36 PM EDT christian.fay@teneo.com wrote:

Thank you Ashley,
I have one further query at the moment.
I note from the data provided that there was a transfer on 15 June 2022 at 13:52 from blocks2 to blocks of USD 3989.63. There were no further withdrawals from blocks but I note that the current balance is USD 37.87. Can you please advise what happened to the difference between these two sums? Is there a separate transaction log of all fiat withdrawals to bank accounts?
Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Friday, September 16, 2022 6:40 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; legal@ftx.com
Subject: Re: 3AC - account history

Dear Christian,
Thank you for your email.

3AC-FTX-00526962

As requested, please note that we have extracted the full Deposit and Withdrawal History for the account. Regarding both referenced transfers, please note that those Wallet Addresses belong to clients of FTX. We are only able to disclose the **Wallet Address of 0x60b8C79C0fC800BC669f1525D1c7739C7bFf43f3** since it appears to belong to an Administrator of Three Arrows Capital (kyle8@threearrowscap.com).
If we can be of further assistance, please do not hesitate to respond to this email.
Regards,
Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

.

On September 13, 2022, 12:04 PM EDT
christian.fay@teneo.com wrote:

Hi Ashley,

I have been reviewing the account details and note that we are only able to pull withdrawal details back to 22 May 2022 and deposit details back to 11 May 2022; however, on the FTX portal I can see that the account was active from September 2020.

Can you please advise how we can obtain deposit and withdrawal history prior to May 2022?

I also note that there were internal transfers on 8 & 9 June 2022 to 0x60b8C79C0fC800BC669f1525D1c7739C7bFf43f3 and 4sVPNDKr38iSj8S1JbE8M11YmRGB8fyqNMCAKupUrGZ9. Can you please advise what account these wallets are connected to?

Please let me know if you have any queries.

Kind regards,

Christian Fay
Consultant

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3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

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Exhibit G

Message	
From:	Christian Fay [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F266D3AE5FA84782B53BB536723C75F7-CHRISTIAN F]
Sent:	10/20/2022 9:15:57 AM
To:	abethel@ftxdigitalmarkets.com
CC:	Christopher Farmer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3925445c0d824039b30797d6c2998e93-Christopher]; 3ACLiquidation [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9862ca2c720c4bc0be9bb67fe42efb01-3ACLiquidat]; legal@ftx.com; Jessica Ferguson-Murray [jmurray@ftxdigitalmarkets.com]
Subject:	RE: 3AC - account history

Thank you for confirming Ashley.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🔘 🔘 🔘 🔘

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Thursday, October 20, 2022 9:08 AM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; legal@ftx.com; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - account history

External (abethel@ftxdigitalmarkets.com)

Report This Email   FAQ   Protection by Teneo

Dear Christian,

Thank you for your email and I would like to apologize for the delay in response. It should be noted that I am out of office.

Wallet Address 0x890c0644146ca07552ecbe4528d0efac029fe44eis connected to **DefianceJoe.**

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242

1
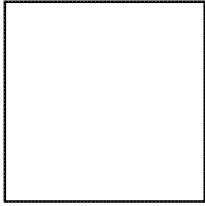
On October 19, 2022 at 12:38 PM EDT christian.fay@teneo.com wrote:

Apologies for the numerous emails.

I have identified that the 9,928.48 AVAX is comprised of

1. 3.48 which was deposited directly to the DefianceJoe2 account on 31 May 2022 via the following TX.
2. There is another deposit, which was included in the extract of all deposits to 3AC, of 9,925 AVAX on 3 June 2022 via the following TX.

Can you please advise which subaccount the following wallet is connected?
0x890c0644146ca07552ecbe4528d0efac029fe44e

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Christian Fay
Sent: Wednesday, October 19, 2022 12:17 PM
To: 'abethel@ftxdigitalmarkets.com' <abethel@ftxdigitalmarkets.com>
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>; 3ACLiquidation <3ACLiquidation@teneo.com>; 'legal@ftx.com' <legal@ftx.com>; 'Jessica Ferguson-Murray' <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - account history

Dear Ashley,

I understand that there were no transfers of AVAX between subaccounts following 14 May 2022 and that all AVAX deposited to/(withdrawn from) the FTX was sent to/(from) the main account.

If my understanding is correct, we only need to look at the trading history in the main account.

My calculations are showing that there should be a balance of 9,928.48 AVAX still in the account.

Can you please let me know whether I am missing anything here?

Thank you,

2

AVAX B/F @ 14 May	12,563.60
AVAX Deposited	2,295,442.48
AVAX Withdrew	(185,800.00)
AVAX Bought with PERP	136,804.60
AVAX Sold for PERP	(136,804.60)
AVAX Sold for USD	(2,112,277.60)
C/F	9,928.48

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🔗 🐦 🌐 ▶

teneo.com

From: Christian Fay
Sent: Wednesday, October 19, 2022 11:21 AM
To: 'abethel@ftxdigitalmarkets.com' <abethel@ftxdigitalmarkets.com>
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>; 3ACLiquidation <3ACLiquidation@teneo.com>; legal@ftx.com; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - account history

Thanks Ashley,

Are you available for a brief call to run through the data and make sure I am understanding correctly?

I am available until 12:30ET if you are free.

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🔗 🐦 🌐 ▶

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Wednesday, October 19, 2022 11:11 AM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation

3AC-FTX-00008190

<3acliquidation@teneo.com>; legal@ftx.com; Jessica Ferguson-Murray
<jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - account history

Dear Christian,

My apologies but the balance at the beginning was **'AVAX': '12563.6000000000000000'**.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242
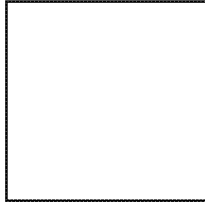
> On October 19, 2022 at 11:03 AM EDT christian.fay@teneo.com wrote:
>
> Dear Ashley,
>
>
> Thank you for the quick turnaround.
>
>
> Can you please also confirm the balance of AVAX that was held in the main account at the beginning of the day on 14 May 2022?
>
>
> Thank you,
>
> Christian Fay
> Consultant
>
> Teneo
> 3rd Floor, Banco Popular Building
> Road Town, Tortola VG-1110
>
> teneo.com
>
>
> **From:** Ashley Bethel <abethel@ftxdigitalmarkets.com>
> **Sent:** Wednesday, October 19, 2022 10:04 AM
> **To:** Christian Fay <christian.fay@teneo.com>

4

Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; legal@ftx.com; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - account history

Dear Christian,

As requested, please find attached the referenced item.

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242
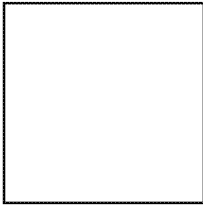
> On October 18, 2022 at 3:02 PM EDT christian.fay@teneo.com wrote:
>
> Hi Ashley,
>
> Apologies for the quick follow-up.
>
> To manage expectations, can you please confirm whether you will be able to provide the requested information by EOD tomorrow 19 October?
>
> Thank you,
>
> Christian Fay
> Consultant

5

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🔗 🐦 ✉ ▶

teneo.com

From: Christian Fay
Sent: Tuesday, October 18, 2022 9:44 AM
To: abethel@ftxdigitalmarkets.com
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>;
3ACLiquidation <3ACLiquidation@teneo.com>; legal@ftx.com; Jessica
Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - account history

Hi Ashley,

We have a high priority request with respect to trading activity on the
3AC account.

I can see that the Company had been both buying and selling AVAX for
USD and PERP. I am only able to download 100 transactions at a time,
but understand there were thousands of trades conducted.

Are you able to pull this information for us? As a top priority we would
like to have the balance of AVAX as at 14 May 2022 and then a
breakdown of all AVAX transactions since that date.

Please let me know if you have any queries.

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

6

teneo.com

From: Christian Fay <Christian.Fay@teneo.com>
Sent: Thursday, October 13, 2022 5:42 PM
To: abethel@ftxdigitalmarkets.com
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>;
3ACLiquidation <3ACLiquidation@teneo.com>; legal@ftx.com; Jessica
Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - account history

Thank you for the confirmation.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Thursday, October 13, 2022 5:41 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>;
3ACLiquidation <3acliquidation@teneo.com>; legal@ftx.com; Jessica
Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - account history

Dear Christian,

Thank you for your email.

7

3AC-FTX-00008194

Kindly note that the account only withdrew to **Silvergate Exchange Network (SEN) via account number 5090008250** and **Signet via account number 1503516248**.

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

▪

On October 10, 2022 at 11:43 AM EDT christian.fay@teneo.com wrote:

Hi Ashley,

I hope all is well.

Do you have a record of the bank accounts to which the fiat withdrawals were sent?

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

(in) (O) (O) (O)

teneo.com

From: Christian Fay
Sent: Tuesday, October 4, 2022 1:17 PM
To: abethel@ftxdigitalmarkets.com
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>; 3ACLiquidation

8

<3ACLiquidation@teneo.com>; legal@ftx.com; Jessica
Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - account history

Thank you Ashley,

Confirming receipt.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Tuesday, September 27, 2022 2:43 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer
<christopher.farmer@teneo.com>; 3ACLiquidation
<3acliquidation@teneo.com>; legal@ftx.com; Jessica
Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - account history

Dear Christian,

Thank you for your email.

As requested, please find attached the requested
Transaction History in the referenced format.

Regards,

9

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

▪

On September 26, 2022, 5:48 PM EDT
christian.fay@teneo.com wrote:

Dear Ashley,

Thank you for your email.

I have reviewed the attached
deposit/withdrawal schedules and note
that account the history begins at 00:20
on 1 January 2021. Can you please also
provide the account activity in 2020?

Can we also obtain all of the deposit
and withdrawal history in the same
format as 'main_deposits.csv' and
'main_withdrawals.csv'? This will allow
us to see where the funds are
originating and where the transfers are
going.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🅛 🅣 🅢 🅟

teneo.com

10

3AC-FTX-00008197

From: Ashley Bethel
<abethel@ftxdigitalmarkets.com>
Sent: Monday, September 19, 2022
9:14 PM
To: Christian Fay
<christian.fay@teneo.com>
Cc: Christopher Farmer
<christopher.farmer@teneo.com>;
3ACLiquidation
<3acliquidation@teneo.com>;
legal@ftx.com
Subject: Re: 3AC - account history

Dear Christian,

Thank you for your email.

Please note that I may have to refer
you to another department to assist
with this query; however, I do
believe that there were various
'Trades' placed after the deposit was
made. Kindly note that all trades can
be found in the 'Fills' tab.

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

▪

> On September 19,
> 2022, 12:36 PM EDT
> christian.fay@teneo.co
> m wrote:
>
> Thank you Ashley,

11

I have one further query at the moment.

I note from the data provided that there was a transfer on 15 June 2022 at 13:52 from blocks2 to blocks of USD 3989.63. There were no further withdrawals from blocks but I note that the current balance is USD 37.87.

Can you please advise what happened to the difference between these two sums? Is there a separate transaction log of all fiat withdrawals to bank accounts?

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola
VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Friday, September 16, 2022 6:40 PM

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To: Christian Fay
<christian.fay@teneo.c
om>
Cc: Christopher Farmer
<christopher.farmer@t
eneo.com>;
3ACLiquidation
<3acliquidation@teneo.
com>; legal@ftx.com
Subject: Re: 3AC -
account history

Dear Christian,

Thank you for your
email.

As requested, please
note that we have
extracted the full
Deposit and
Withdrawal History for
the account.
Regarding both
referenced transfers,
please note that
those Wallet
Addresses belong to
clients of FTX. We
are only able to
disclose the **Wallet
Address
of 0x60b8C79C0fC8
00BC669f1525D1c77
39C7bFf43f3** since it
appears to belong to
an Administrator of
Three Arrows Capital
(kyle8@threearrowsc
ap.com).

If we can be of further
assistance, please do
not hesitate to
respond to this email.

13

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The
Bahamas 1242

▪

> On
> September 13,
> 2022,
> 12:04
> PM EDT
> christia
> n.fay@t
> eneo.co
> m
> wrote:
>
> Hi
> Ashley,
>
>
> I have
> been
> reviewi
> ng the
> account
> details
> and
> note
> that we
> are
> only
> able to
> pull
> withdra
> wal
> details
> back to
> 22 May
> 2022
> and
> deposit

14

details back to 11 May 2022; however, on the FTX portal I can see that the account was active from September 2020.

Can you please advise how we can obtain deposit and withdrawal history prior to May 2022?

I also note that there were internal transfers on 8 & 9 June 2022 to 0x60b8 C79C0f C800BC 669f15 25D1c7

15

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and
4sVPND
Kr38iSj
8S1JbE
8M11Y
mRGB8
fyqNM
CAKup
UrGZ9.
Can you
please
advise
what
account
these
wallets
are
connect
ed to?

Please
let me
know if
you
have
any
queries.

Kind
regards
,

Christi
an Fay
Consult
ant

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Road
Town,
Tortola
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pleased
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announc
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of
January
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have
joined
Teneo,
the
global
CEO
advisory
firm. For
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IMPORTANT NOTICE

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Exhibit H

Message
_____

From:	Christian Fay [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=F266D3AE5FA84782B53BB536723C75F7-CHRISTIAN F]
Sent:	11/10/2022 7:00:28 PM
To:	abethel@ftxdigitalmarkets.com
CC:	Jessica Ferguson-Murray [jmurray@ftxdigitalmarkets.com]
Subject:	RE: 3AC - wallet identity request

Apologies Ashley, please disregard this email.

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

_____

From: Christian Fay
Sent: Thursday, November 10, 2022 6:19 PM
To: abethel@ftxdigitalmarkets.com
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>; 3ACLiquidation <3ACLiquidation@teneo.com>; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - wallet identity request

Hi Ashley,

I hope you are doing well.

We have identified a further address which we understand is connected to 3AC:

1. 0xC7C914a5630940Db34671892189F96251EC23741 ("0xC7C")

0xC7C received 7.29 ETH from 0x75e1 on 8 November 2022 in this transfer Ethereum Transaction Hash (Txhash) Details | Etherscan

We understand that 0x75e1 is a Three Arrows address as it was used to purchase numerous NFTs in August 2021 while 3AC publicly announced its acquisitions of these addresses.

We can also confirm that 0x75e1 received its initial funding of 2,800 ETH from the Company's Coinbase account in August 2021.

We can see that 0xC7C has received a number of SRM tokens from FTX this month, including the following txid's.

Can you please confirm the owner of the account(s) which initiated these transfers?

TXID	DateTime	From
0x803db8a52e460f29a8d867cc8963219d379c220b26f137f4938269e4cc751721	9/20/2022 16:59	0x2faf487a4414fe77e2327f0bf

1

3AC-FTX-00008322

0xd95816cb87a7098f83bee497680146ddeff9bf1e45f76a3719e91fc938e72a61	9/20/2022 17:07	0x2faf487a4414fe77e2327f0bf
0x8fc359dc1b84345ba83c497abb01e4e778684326d35148e4bbe182c5c15534e5	9/26/2022 17:59	0x2faf487a4414fe77e2327f0bf
0x7bcb0a5b7c3503d4df7a58d5791603bc9c10fdcdf7cffb18cdfd868ccaabe814	9/29/2022 15:37	0x2faf487a4414fe77e2327f0bf
0x4e0e8ca7edbc2254e048ad7d3f663f2b7676ca59d814cfa7a0ca2061b492ffa9	9/30/2022 17:21	0x2faf487a4414fe77e2327f0bf
0xba7253fa3727ead2b55737aa29539e6466ebae5659938ab4448627406a0ee631	10/3/2022 17:47	0x2faf487a4414fe77e2327f0bf
0x0a7885c3c6c8dab8a23c0d6bbb6df33e8c8ecfdad3ce66a4b2c2005305b344b5	10/6/2022 19:33	0x2faf487a4414fe77e2327f0bf
0x1454778a3afc1c6862e4e6e7a67ba663143d2e54940890fe2221f030407f1f0e	10/11/2022 8:55	0x2faf487a4414fe77e2327f0bf
0xdab27a6c6fd97866a30e75a8003fe449ab73ac20346e827f84617e5324f69509	10/13/2022 23:37	0x2faf487a4414fe77e2327f0bf
0x7221a79cbdf8c5b8188917eaadd56f0d15b6338b4c0a4165fa5e4c3986b48978	10/15/2022 1:50	0x2faf487a4414fe77e2327f0bf
0x255fcf515eeeb533a5f0dde5d9f83416230c6ed233007ffd58235cc26318de43	10/16/2022 3:04	0x2faf487a4414fe77e2327f0bf
0x777836ba442150069f3436ae7614f80f7a53a410e26dc0ed5b66a85d9b8e4117	10/17/2022 6:50	0x2faf487a4414fe77e2327f0bf
0x0e2fee0744eab443e0857ee9f5eab9a16c6145af68572f9ec1633a40a0fb61d5	10/18/2022 10:22	0x2faf487a4414fe77e2327f0bf
0x117430ca579789b59bad13dcf1f5c846212272ea7b4418bdf4d2d98605876fcb	10/20/2022 1:04	0x2faf487a4414fe77e2327f0bf
0xf43700e5bafafa48a641ce4e7f6ae2c07c9d797a4f8547135dfdc234126a5da8	10/25/2022 21:51	0x2faf487a4414fe77e2327f0bf
0xff93a11411453b09207f3bdafeb59d7daeafd916a628b34731739bf694dbd1ff	10/30/2022 5:35	0x2faf487a4414fe77e2327f0bf
0x1b71fa4b06b1ca2bc6e946067bef5e83167e30f51de774827520bb75ef8a66df	10/31/2022 8:43	0x2faf487a4414fe77e2327f0bf
0xa5e0c958eb8ea3b8900aa20a320ea9b2d553f4dc4daf499f635394eb43e36961	11/2/2022 3:07	0x2faf487a4414fe77e2327f0bf
0xe062f25bf6f84a1a51e757448d7ef8cd20f6fe43215dce0a52af808f2662944b	11/3/2022 13:41	0x2faf487a4414fe77e2327f0bf
0x3e10900c0ba36087f6b93d22706adb8151e8b8047ee84ab22d958ce3785a1586	11/4/2022 12:43	0x2faf487a4414fe77e2327f0bf
0x8ddadaeef46ca4889f2cd4d91d7c1eb162f91ec72c2eb038688aa2a3d9460736	11/7/2022 12:50	0x2faf487a4414fe77e2327f0bf

Thank you very much for your assistance.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

2

3AC-FTX-00008323

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Wednesday, October 26, 2022 11:49 AM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - wallet identity request

External (abethel@ftxdigitalmarkets.com)

Report This Email FAQ Protection by Teneo

Dear Christian,

As it relates to your query I can confirm that the referenced address is not associated with our platform.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242
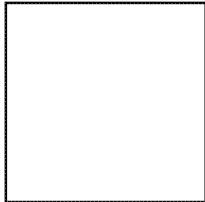
> On October 26, 2022 at 11:40 AM EDT christian.fay@teneo.com wrote:
>
> Hi Ashley,
>
> We have identified a further address of interest: 0xB224228b0Fe71ceBf95EE25339166CD626759b52.
>
> Can you please confirm whether this address is connected to FTX?
>
> We can see that FTX has deposited c. USDT 131m into and received c. USDT 98m from this address.
>
> Thank you for your assistance.
>
> Kind regards,
>
> Christian Fay
> Consultant
>
> Teneo
> 3rd Floor, Banco Popular Building
> Road Town, Tortola VG-1110
>
> teneo.com

3

3AC-FTX-00008324

From: Christian Fay
Sent: Monday, October 24, 2022 7:04 PM
To: abethel@ftxdigitalmarkets.com
Cc: Christopher Farmer <Christopher.Farmer@teneo.com>; 3ACLiquidation
<3ACLiquidation@teneo.com>; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: RE: 3AC - wallet identity request

Great, thank you very much for the quick response.

Kind regards,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

🔵 🔵 🔵 🔵

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Monday, October 24, 2022 6:45 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation
<3acliquidation@teneo.com>; Jessica Ferguson-Murray <jmurray@ftxdigitalmarkets.com>
Subject: Re: 3AC - wallet identity request

Dear Christian,

As it relates to your query I can confirm that neither are associated with our platform.

Regards,

Ashley Bethel
FTX Digital Markets
Nassau, NP, The Bahamas 1242
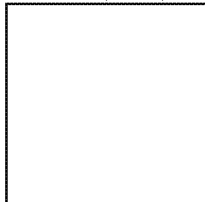
> On October 24, 2022 at 6:09 PM EDT christian.fay@teneo.com wrote:
>
> Thank you Ashley,
>
>
> Can you also please confirm whether 0x0111c0ae7b04a773b6f73d7fe65006713678f0c7
> and 0x8e04af7f7c76daa9ab429b1340e0327b5b835748 are FTX wallets?

4

If so, can you please confirm the accounts associated with these wallets?

We have identified that these three wallets appear connected.

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

From: Ashley Bethel <abethel@ftxdigitalmarkets.com>
Sent: Thursday, October 20, 2022 8:02 PM
To: Christian Fay <christian.fay@teneo.com>
Cc: Christopher Farmer <christopher.farmer@teneo.com>; 3ACLiquidation <3acliquidation@teneo.com>
Subject: Re: 3AC - wallet identity request

Dear Christian,

As it relates to your query please note that **Wallet Address 0x0f558a05d1ab80558f70718c126c8e779c57842f** is associated with another user on our platform. Their name is **Peng Ming Yuan 彭名源**.

Regards,

Ashley Bethel

FTX Digital Markets

Nassau, NP, The Bahamas 1242

5
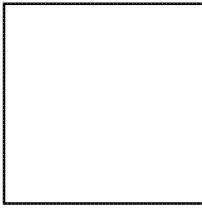
On October 20, 2022 at 6:28 PM EDT christian.fay@teneo.com wrote:

Hi Ashley,

We have identified 0x0F558A05d1ab80558f70718C126C8e779C57842F as being a wallet address which is connected to the Three Arrows Capital, Ltd (in liquidation).

I note this wallet address received 200ETH from FTX in the following transaction: Ethereum Transaction Hash (Txhash) Details | Etherscan

Can you please confirm the identity of the party which initiated this transaction?

Thank you,

Christian Fay
Consultant

Teneo
3rd Floor, Banco Popular Building
Road Town, Tortola VG-1110

teneo.com

6

We are pleased to announce that as of January 5, we have joined Teneo, the global CEO advisory firm. For more information about our comprehensive Financial Advisory offering, please visit teneo.com/service/financial-advisory.

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IMPORTANT NOTICE

7

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Teneo (BVI) Limited is a limited Company registered in British Virgin Islands with Company number 2076493 and our registered office is 3rd Floor, Banco Popular Building, Road Town, Tortola, VG-1110, British Virgin Islands.

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We are pleased to announce that as of January 5, we have joined Teneo, the global CEO advisory firm. For more information about our comprehensive Financial Advisory offering, please visit teneo.com/service/financial-advisory.

Teneo

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Teneo (BVI) Limited is a limited Company registered in British Virgin Islands with Company number 2076493 and our registered office is 3rd Floor, Banco Popular Building, Road Town, Tortola, VG-1110, British Virgin Islands.

Exhibit I

← **Post**

Kyle (3/AC) ✔
@KyleLDavies

I was the largest trader on FTX. I am the most qualified person in the world.

4:04 AM · Dec 9, 2022

3 Reposts   **1** Quote   **43** Likes   **1** Bookmark

1

Exhibit J

FILED UNDER SEALED

Exhibit K

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Help Center

● Archived   American English   ⓘ

FTX Features Overview

This post walks through the most commonly used features on FTX. It's not exhaustive, though. Note that it makes a bunch of approximations and should not be taken literally; please read through our documentation and learn how to use FTX for yourself.

1. Wallet

The wallet page contains your balances, deposits, and withdrawals.

Website	APP
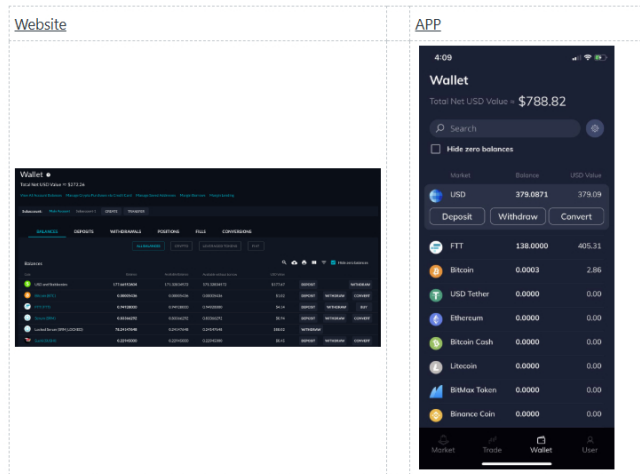
In order to find a coin in your wallet page, click the 'search' icon, and type in the coin you want; or browse the tabs 'All Balances', 'Crypto', Leveraged Tokens' and 'Fiat'. Note that if you have 'Hide zero balances' checked you'll have to type in a coin if you don't have any of it.

Website	APP
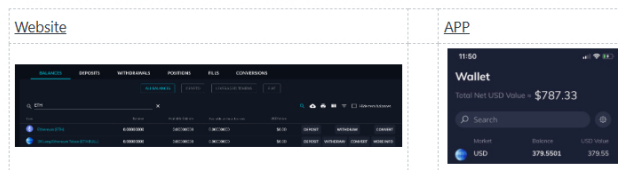
1.1 Balances

You'll see *Balance* and *Available Balance* for each coin.

- Balance: how much you own
- Available Balance: how much you own and aren't using for open positions or orders.

If you want to filter for coins that you own, click 'Hide zero balances'.

1.2 Depositing/Withdrawing

To deposit a coin, click 'DEPOSIT'; this will bring up the blockchain address to send the coin. To withdraw, click 'WITHDRAW' and enter the details.

You can see your pending deposits and withdrawals by scrolling down to the bottom of the wallet page.

Note that FTX does not charge any fees for deposits. For withdrawal fees, see here.

1.3 Convert

Converting is the easiest way to trade on FTX. If you have BTC and want to convert it to USDT, you can click the 'CONVERT' button, and enter the quantity. You'll be shown a price; if you want to confirm it, just click 'CONVERT'. There are no fees on conversions! The price you see is the price you pay, all-in.

Website	APP
	Two ways to CONVERT on APP

1
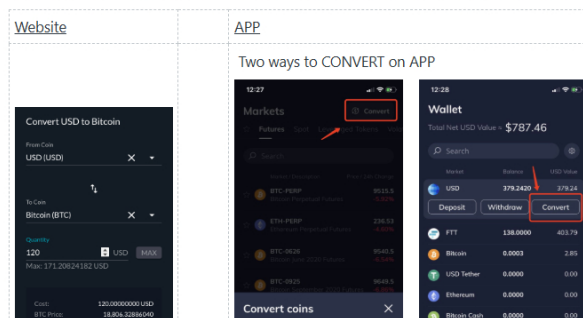
1.4 Fiat

FTX has fiat (wire transfer) deposits and withdrawals! You can click 'Fiat' on the wallet page to see the available currencies:
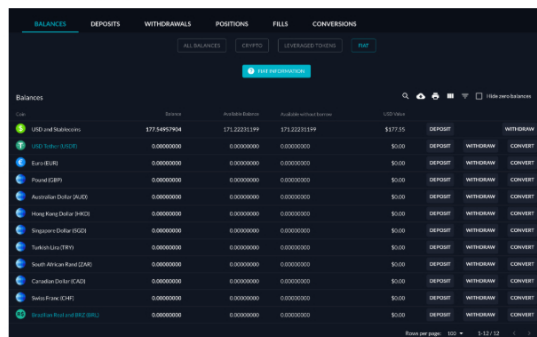
In general, FTX aims to be able to accept wire transfer deposits and withdrawals of **up to $1m and above** with no fees, tight spreads, and reasonable settlement. Click DEPOSIT to get the details, and click WITHDRAW to request a wire out. **You can use CONVERT to buy/sell any of the fiat currencies on FTX**.

All fiat can be used as collateral on FTX!

Note that you have to be KYC level 2 to deposit or withdraw fiat currencies on FTX.

1.5 USD Stablecoins

The default PnL currency on FTX is USD. **You can freely interchange a bunch of stablecoins 1:1 as 'USD' on FTX.** USD wire transfer deposits and withdrawals will credit USD as well.

Website	APP
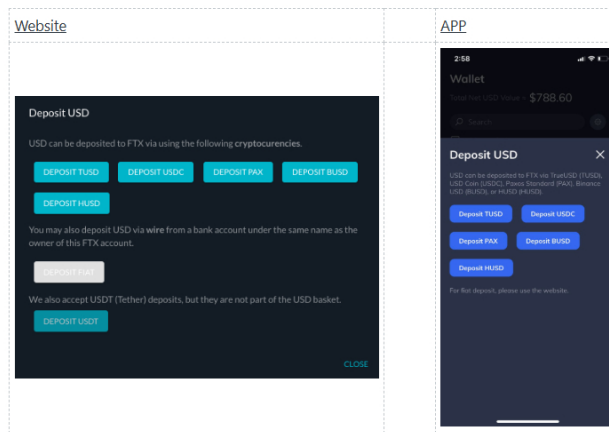
You can deposit any of these and be credited 1:1 with USD, and you can withdraw USD as any of these 1:1.

Note that tether (USDT) is *not* part of the USD Stablecoins basket on FTX. We do support USDT though. You can find it in its own row in your wallet, and deposit/withdraw it normally through available networks.

2. Markets

2.1 The Markets page is the easiest way to see the products listed on FTX.

Website	APP
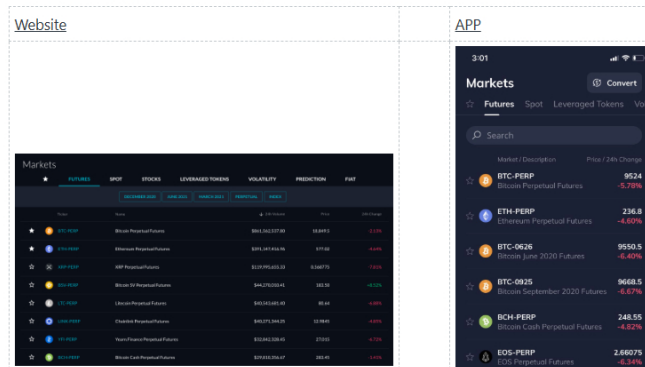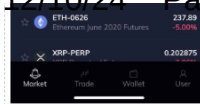
Click on the different tabs to explore all of the markets that FTX offers! We have everything from perpetual and quarterly futures, spot markets with fiat support, Leveraged Tokens, and volatility products.

Clicking the **star icon** next to a market will add it to your favorites; clicking the star at the top will list your favorite markets. This will also move those markets towards the front of the top row of tickers. You can favorite things from the markets page, trading pages, and mobile app!

Website	APP
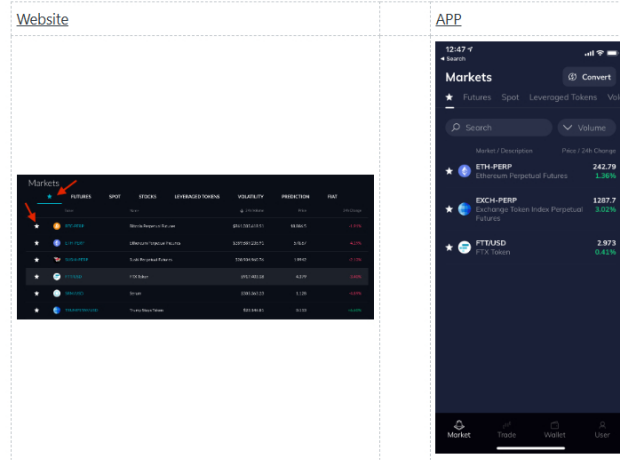
3. Trading

Once you decide what product you want to trade, go to the trading page for that product. Below I'll explore two markets: a futures market (BTC-PERP) and a spot market (FTT/USD).

3. 1 Sending Orders

There are two ways to send orders: using the standard orderform, and using the **3-part orderform**.

Website	APP
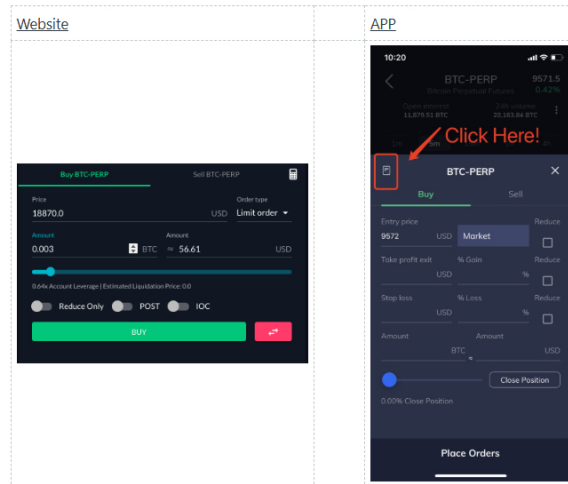
For the standard orderform, you choose a direction, price, and amount. You can also select an advanced order type from the drop-down menu. You can toggle between buying and selling either by clicking the tab on the top, or the arrows on the bottom.

You can also use our bracket orderform, which allows you to place a limit order, stop loss, and take profit all at once.

Website	APP

3
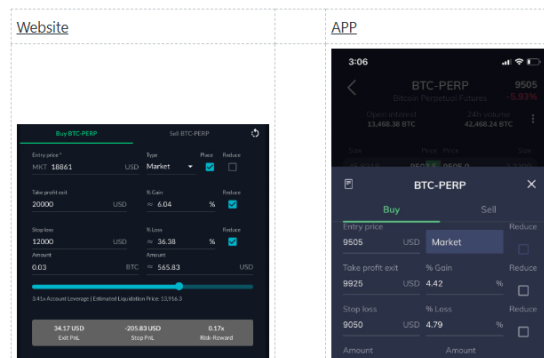
You can toggle between orderforms using the circle in the upper right hand corner.

3.2 Collateral

FTX uses USD-based flexible cross margin isolated to subaccounts. Let's unpack that.

3.2.1 USD PnL

On FTX, all futures settle in USD. What that means is that if you buy 2 futures for $9000 and sell them for $9150, you make 2 * (9150 - 9000) = $300 in profit. All futures are denominated in the underlying coins; so 1 BTC-PERP future means 1 bitcoin. Similarly, if you sold 3 ETH-PERP for $200 and bought them back for $210, you would have lost $30.

3.2.2 Flexible Collateral

The easiest way to understand collateral on FTX is by using USD.

However, you are allowed to use many assets as collateral on FTX! Say that you have 10 ETH as collateral, and you buy 5 BTC-PERP for $9000 and then sell them back for $8950. You've lost $250 of PnL. But you don't have any USD to pay--only ETH. FTX will debit your account for the USD amount owed; your balances will become 10 ETH and -250 USD. If that negative USD balance grows large enough, eventually FTX will sell off $250 worth of your ETH into USD to settle your PnL. If it sold the ETH for $200 each, you'd be left with 8.75 ETH and no USD.

You can mix and match collateral assets as you want, using any combination of USD, USDT, BTC, ETH, FTT, any fiat currency, and much more! You're free to use whichever you prefer. You're no longer locked into using only BTC, or only USDT, as collateral; you can hold your funds as you choose.

3.2.3 Cross Margin

By default, you can trade all of the futures products on FTX without having to separate your funds. Just deposit any collateral into your wallet, and then trade whichever futures you like; FTX will automatically use all of your collateral to backstop all of your positions. If you make or lose PnL on any position, that will come out of your central collateral.

That means that there's no need to manage 10 different wallets or currencies or liquidations--all of your portfolio is automatically together.

3.2.4 Subaccounts

However, if you *want* to isolate your positions from each other, you can do so using subaccounts. Each subaccount has totally separate collateral, PnL, etc.; so you can store funds in a subaccount for one position, and other funds in a separate account for a different position.. This gives you total control: you can combine or separate your trading as you prefer.

You can create subaccounts here. You can also transfer collateral between them on that page.

If you want to switch between your subaccounts--perhaps to change which product you're trading--the easiest thing to do is to use the subaccount bar on trading pages.

Website	APP
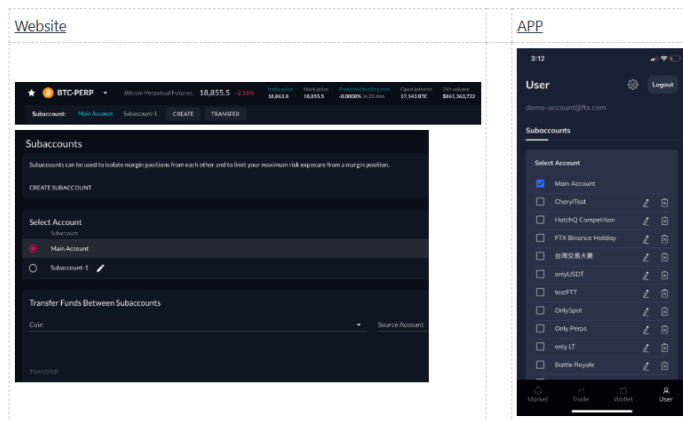
This will appear on every trading page, and with one click you can move to a different subaccount! You can also switch subaccounts in the top right menu by clicking on your account name.

3.2.5 Risk and Liquidations

Margin trading can be risky! You can monitor the state of your account using the info boxes on trading pages.

Website	APP

4
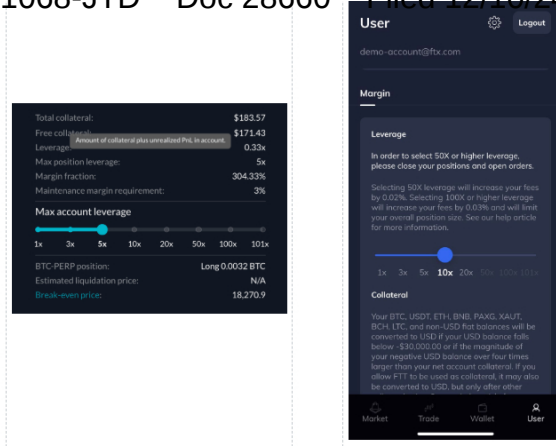
Your *total collateral* is the sum total USD value of the collateral currencies combined in your account. Your *free collateral* is that total USD value minus the amount being used as collateral for your positions. So for example, in the image above I have $183.57 worth of assets, and am using about $12.14 of those assets as collateral, with another $171.43 free to open more positions.

Your *leverage* is your positions' size divided by your total collateral; in this case I have a position size of roughly $9000 and a collateral of just under $3000, so my leverage is about 3.33. Your *margin fraction* is just 1 / leverage: it's your account's value divided by your position size. Your *Max position leverage* is the highest amount of leverage you have allowed for any positions in your account. You can take this up or down using the slider; note this does not send any orders or change your current risk profile, it merely changes the maximum risk you've allowed your account to take on. Finally, your *maintenance margin requirement* is how high your margin fraction needs to be to avoid liquidation. If your margin fraction drops below your maintenance margin, your account's positions will begin being liquidated by the FTX risk engine.

Remember that within one subaccount FTX will add up your total collateral and your total position size across all contracts; if you want your risk to be independent, put the positions in separate subaccounts.

Note that, unlike many exchanges, FTX will update your collateral nearly in real time: usually with 30 seconds or less of delay. So if you make money, that USD will almost immediately show up in your wallet, and you can use it to open more positions, buy other tokens, or withdraw. The one exception is that PnL isn't realized on the platform until there are no active liquidations.

3.3 The Graph

By default, FTX uses TradingView graphs on its desktop site. You can edit the graph settings, place and move orders, and customize the graph display. You can bring up the graph settings page by clicking on the gear on the upper right corner of the graph:
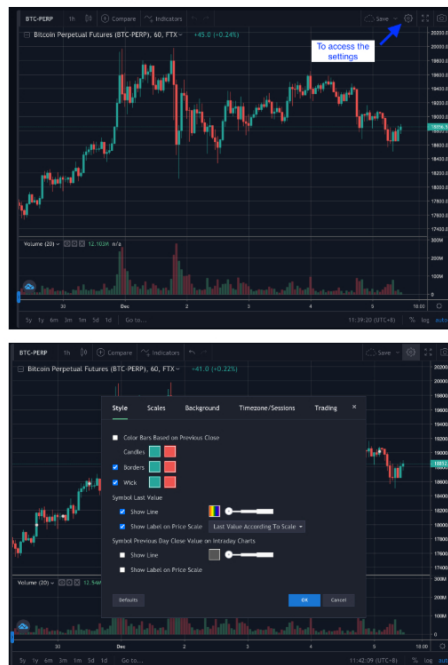
3.4 Spot Markets and Margin

FTX also has spot markets! You can trade FTT, BTC and other coins. The interface is similar to futures, if you decide not to use margin.

And we provide you with the ability to use spot margin. Please read more about it here. In order to enable spot margin, you'll have to visit https://ftx.com/profile#spot-margin

Spot margin trading is currently **disabled** for your account.

ENABLE SPOT MARGIN TRADING

3.5 Navigating to different markets

You can navigate to different markets by using the nav-bar on top or just by hovering over the dropdown button directly on the trade ticker.
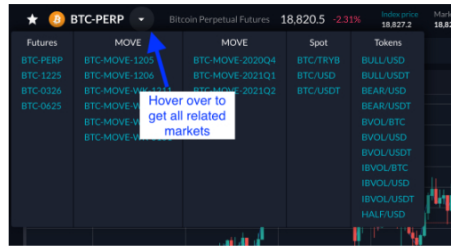
4. Customizing The UI/UX

There are a *lot* of ways to customize the FTX trading interface!

4.1 Build your own layout

First of all, you can drag around all of the boxes, rearranging your order entry form, orderbook, and more.

Beyond that, you can find a large list of choices by clicking on the settings gear in the upper right hand corner of any trading page, or the User tab of the mobile app.

Website | APP
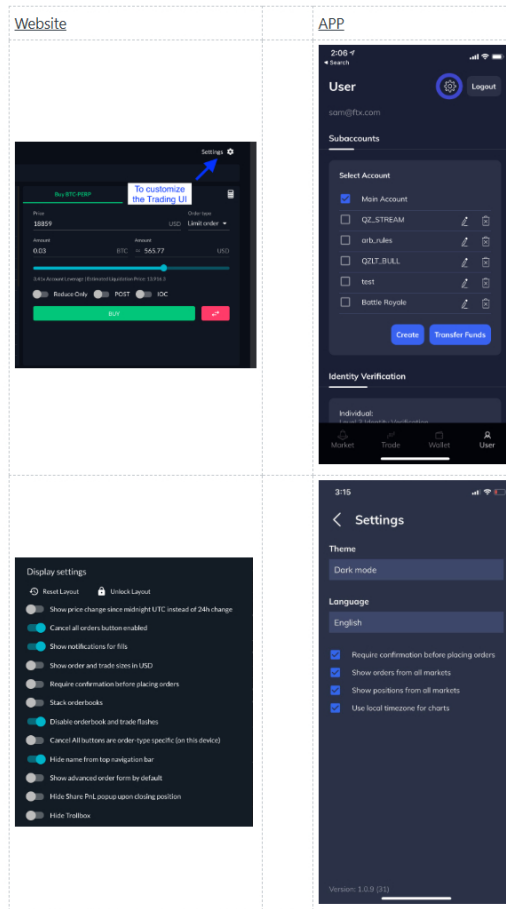
We encourage you to check out all of the settings and see which configuration you like best!

4.2 Track all your markets and coins directly

On the home, trading and wallet page you can follow any market you like.

6
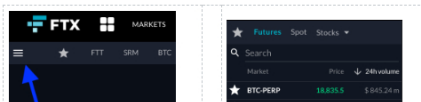
5. Account and Security

Your account settings have your security, referrals, fees, API keys, and more.

5.1 Security

The account security / KYC and other settings are accessible from most pages by clicking the top right corner.
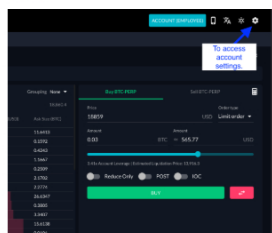
You can change your password and other security settings on your profile page.

Website	APP
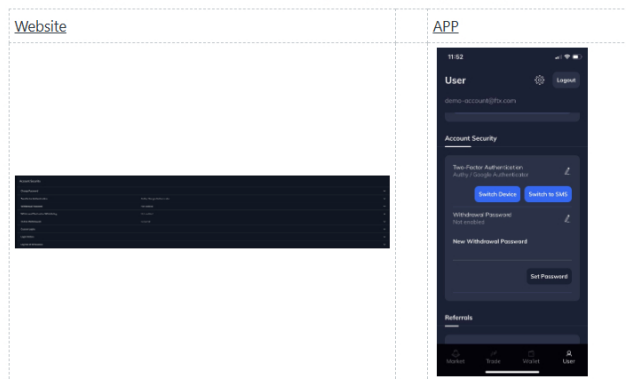
The most important thing to do is to add 2-factor authentication to your account. **We recommend using *Authy / Google Authenticator*,** although you can also use SMS. You must do this before depositing to FTX. You'll be shown a QR code and a 16-digit string; they are equivalent, and act as the secret key for your 2FA. Enter it into any common 2FA app--like Google Authenticator--and you'll be able to get the authentication codes.

You can also **add a separate password for withdrawals**, and decide when 2FA is required.

The 'Logins' section allows you to create custom logins: you can decide what subaccount they can access and what level of control they have.
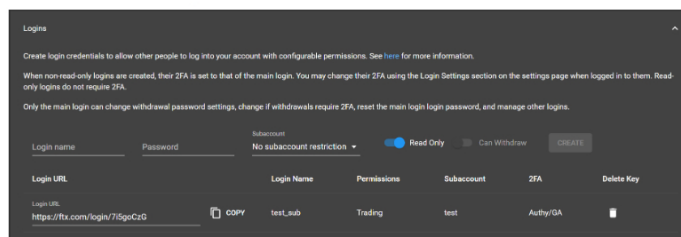
5.2 API keys

You can also create and manage your API keys on your settings page.
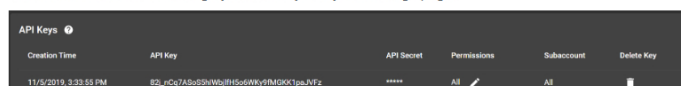
Clicking on the pencil icon will bring up a box where you can toggle the permissions for the key:

7
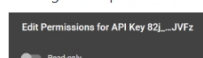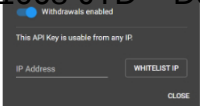
6. FTX Token: FTT

6.1 Rebates

FTT is the exchange token of the FTX ecosystem. You receive lower trading fees for holding FTT on FTX. We also do a weekly buy and burn of 1/3 of our trading revenue! Finally, you can use FTT as collateral for all futures on FTX, so you can hold your capital on FTX in FTT and still trade with it.

You can find more information about FTT here, and you can trade it here.

Fee Rebates

FTT gives fee rebates to holders. You can find the current fee structure here. The current FTT-based fee rebates are:

FTT Holding (USD)	Discount on FTX Trading Fees	Discount on FTX OTC	Other Privilege
$100.00	3.00%	0.0000%	N/A
$1,000.00	5.00%	0.0000%	N/A
$5,000.00	10.00%	0.0025%	N/A
$10,000.00	15.00%	0.0050%	N/A
$50,000.00	20.00%	0.0050%	N/A
$100,000.00	25.00%	0.0075%	N/A
$200,000.00	30.00%	0.0100%	N/A
$500,000.00	35.00%	0.0125%	N/A
$1,000,000.00	40.00%	0.0150%	Automatically become Tier 4
$2,500,000.00	50.00%	0.0200%	Automatically become a VIP
$5,000,000.00	60.00%	0.0200%	Automatically become a VIP2

6.2 FTT Staking

You can stake your FTT for additional rewards including increased referral fee and SRM rewards.

FTT Staking

Staking FTT gives the following benefits:

- **Increased referral rates**: referrers that stake FTT are paid a higher fraction of their referees' fees
- **Maker fee rebates**: stakers get maker fee rebates (in addition to the standard FTT fee discounts)
- **Bonus votes**: stakers get bonus votes in our polls (in addition to the standard number of votes, based on FTT held and trading volume)
- **Increased airdrop rewards**: stakers get increased SRM airdrops (and potentially later other airdrops and yield)

See here for more information.

Tier	FTT Staked	Referral Rate	Maker Fee Rebate	Bonus Votes	Relative Airdrop Increase
0	0	25.00%	0.0000%	0	0.00%
1	25	30.00%	0.0005%	1	2.50%
2	1,000	32.00%	0.0010%	2	5.00%
3	50,000	35.00%	0.0015%	6	7.50%
4	250,000	37.00%	0.0020%	15	10.00%
5	1,000,000	40.00%	0.0025%	30	12.50%

	Coin	Balance	Available	Staked	Scheduled to unstake
	FTT (FTT)	0.94928000	0.94928000	0.00000000	0.00000000

BUY FTT   UNSTAKE   STAKE

7. Mobile Apps

As of June 2022, FTX has a brand new set of mobile apps for both android and iPhones! You can download them here. They are significantly faster and cleaner than the older versions of the FTX app.

mceclip0.png

Exhibit L

Add ⌄   Manage articles ⟩ OTC Guide   Help Center
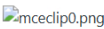
○ Draft | ⊘ Unverified ⌄ | American English   ⓘ

OTC Guide ✎

FTX has an OTC portal at otc.ftx.com where you can get instant, 24/7 OTC quotes for any coin supported by FTX.

How do I register for FTX OTC?

You use the same account for FTX OTC as you do for FTX; so once you've created an FTX account and cleared AML/KYC you're ready to start using the OTC service as well.

Can I trade via API?

Yes, FTX OTC supports REST and WebSocket connections. See the OTC API Documentation for more information.

How do I deposit/withdraw?

You can transfer funds from your FTX account from the Wallet tab on the navigation pane, or https://otc.ftx.com/wallet. To transfer funds, click "FTX Transfer" from the appropriate token's row in the OTC wallet. Then follow the prompts to instantly transfer fiat or crypto from your FTX account to the OTC wallet. Please note that the only way to add funds to your OTC wallet is to transfer from your FTX Wallet.

Please check that the "hide zero balances" checkbox is unselected. This setting is located near the top of the screen of the OTC wallet.
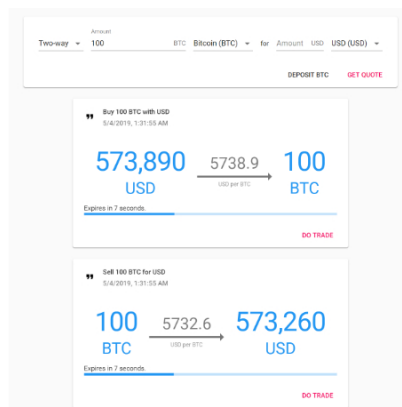
You can deposit and withdraw funds via API. See the OTC API Documentation for more information.

How do I get quotes?

You can request OTC quotes by going to https://otc.ftx.com/, entering the details, and clicking 'GET QUOTE'. This will give a live quote that you can trade against.

If you don't have enough funds in your OTC wallet to do the trade, instead you'll see 'GET INDICATIVE QUOTE'. This will give the same quote you'd normally get, except that you won't actually be able to trade against it until you deposit enough funds.

Quotes expire after approximately 15 seconds. During times of increased volatility, quotes may expire. You will know a trade is complete if you receive notification that it is.

How do I stream quotes?

RFS (request for stream) is now supported over WebSocket, users can receive real-time streaming prices at a quantity of their choosing for all supported assets on otc.ftx.com. View the RFS OTC API documentation here.

How do I get priced in TWAP?

You can go to https://otc.ftx.com/twap to fill in the required details: base currency, quote currency, direction (buy or sell), size (in base currency or quote currency), and the duration. Limit price and start time are optional.

1

BUY   SELL

Total size (USD)

1000000

BTC   **USD**

Duration (hours)

12.5

Limit Price (optional)

☑ Set start time (UTC+08:00)

01/07/2022 12:12 pm 📅

CANCEL   **SUBMIT**

Once the TWAP quote request is submitted, you will see the trade status on the same page. Each TWAP trade will automatically settle after it finishes.

Market	Side	Size	Status	Duration	Limit Price	Offset (Bps)	Twap Price	Index	Proceeds	Cost
BTC USD	buy	100 USD	settled	6h		15	20,345.81	20,318.33	0.004918 BTC	100 USD
BTD-USD	buy	100 USD	rejected	12d 24h		15				

Final proceeds will be printed at the TWAP index plus or minus the offset.

If you have delayed settlement enabled, this may result in a borrow, and you may be charged interest.

If you would like to know how to set a specific start time or set a limit price, there are more details in "TWAP Spec" on the page.

Where can I see my trades?

You can see your trade history at https://otc.ftx.com/fills. You can also see your current balances at https://otc.ftx.com/wallet.

Can I get a post-trade settlement?

By default trades must be pre-funded on FTX OTC. If you qualify as an ECP, you can apply for post-trade settlement on OTC trades.a line of credit on FTX OTC.

If you want to be able to trade OTC without pre-funding your account, please submit a support ticket, specifying your anticipated volume and trading profile.

Note that in order to be enabled for post-trade settlement, you will need to meet the definition of an Eligible Contract Participant.

_____

👁 Preview   Close   Saved   In progress ⌄   **Save** ⌄

2

Exhibit M

API Documentation
[English](#) [中文](#)

- [Overview](#)
- [REST API](#)
  - [Authentication](#)
  - [Rate limits](#)
  - [Pagination](#)
  - [Subaccounts](#)
    - [Get all subaccuents](#)
    - [Create subaccount](#)
    - [Change subaccount name](#)
    - [Delete subaccount](#)
    - [Get subaccount balances](#)
    - [Transfer between subaccounts](#)
  - [Markets](#)
    - [Get markets](#)
    - [Get single market](#)
    - [Get orderbook](#)
    - [Get trades](#)
    - [Get historical prices](#)
  - [Futures](#)
    - [List all futures](#)
    - [Get future](#)
    - [Get future stats](#)
    - [Get funding rates](#)
    - [Get index weights](#)
    - [Get expired futures](#)
    - [Get historical index](#)
    - [Get index constituents](#)
  - [Account](#)
    - [Get account information](#)
    - [Request historical balances and positions snapshot](#)
    - [Get historical balances and positions snapshot](#)
    - [Get all historical balances and positions snapshots](#)
    - [Get positions](#)
    - [Change account leverage](#)
  - [Wallet](#)
    - [Get coins](#)
    - [Get balances](#)

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3

Overview

Welcome to the FTX API documentation. We offer complete REST, Websocket, and FIX APIs to suit your algorithmic trading needs. You can find sample code for each connectivity option at https://github.com/ftexchange/ftx.

REST API

HTTP-based API with full trading and asset management functionality, with public orderbook and trades data as well as private account data and order management.

REST endpoint URL: **https://ftx.com/api**

Requests and responses use JSON.

We also have sample code for Python, C# and C++.

Authentication

```python
import time
import hmac
from requests import Request

ts = int(time.time() * 1000)
request = Request('GET', '<api_endpoint>')
prepared = request.prepare()
signature_payload = f'{ts}{prepared.method}{prepared.path_url}'.encode()
signature = hmac.new('YOUR_API_SECRET'.encode(), signature_payload, 'sha256').hexdigest()

prepared.headers['FTX-KEY'] = 'YOUR_API_KEY'
prepared.headers['FTX-SIGN'] = signature
prepared.headers['FTX-TS'] = str(ts)

# Only include line if you want to access a subaccount. Remember to URI-encode the subaccount name if it contains special characters!
# prepared.headers['FTX-SUBACCOUNT'] = 'my_subaccount_nickname'
```

```csharp
var method = HttpMethod.Get
var endpoint = $"/api/account";
var request = new HttpRequestMessage(method, endpoint);
var _nonce = (DateTime.UtcNow - start).TotalMilliseconds;

var hashMaker = new HMACSHA256(Encoding.UTF8.GetBytes(""YOUR_API_SECRET""));
var signaturePayload = $"{_nonce}{method.ToString().ToUpper()}{endpoint}";
var hash = hashMaker.ComputeHash(Encoding.UTF8.GetBytes(signaturePayload));
var hashString = BitConverter.ToString(hash).Replace("-", string.Empty);
var signature = hashString.ToLower();

request.Headers.Add("FTX-KEY", "YOUR_API_KEY");
request.Headers.Add("FTX-SIGN", signature);
request.Headers.Add("FTX-TS", _nonce.ToString());
```

For authenticated requests, the following headers should be sent with the request:

- `FTX-KEY`: Your API key
- `FTX-TS`: Number of milliseconds since Unix epoch
- `FTX-SIGN`: SHA256 HMAC of the following four strings, using your API secret, as a hex string:
  - Request timestamp (e.g. `1528394229375`)
  - HTTP method in uppercase (e.g. `GET` or `POST`)
  - Request path, including leading slash and any URL parameters but not including the hostname (e.g. `/account`)
  - (POST only) Request body (JSON-encoded)
- `FTX-SUBACCOUNT` (optional): URI-encoded name of the subaccount to use. Omit if not using subaccounts.

You will find a **detailed example on how to authenticate here**

Rate limits

Hitting our rate limits will result in HTTP 429 errors. Non-order placement requests do not count towards rate limits. Rate limits are tiered by account trading volumes. For details, please **see this post here**. Note that limits in the linked post are at the account level

Pagination

Generalized Request

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```
GET {endpoint}?start_time=1559881511&end_time=1559881711
```

FTX supports pagination on most REST API endpoints. Pagination allows you to specify the time range of data to be returned, which also enables you to retrieve more results than are returned by default. You can find sample Python code which demonstrates pagination using the start_time and end_time parameters here

Name	Type	Value	Description
start_time	number	1559881511	optional; filter starting time in seconds
end_time	number	1559881711	optional; filter ending time in seconds

Subaccounts

To specify a subaccount, include its URI-encoded nickname in the header `FTX-SUBACCOUNT` with the request.

GET ALL SUBACCOUNTS

Request

```
GET /subaccounts
```

Response

```
{
  "success": true,
  "result": [
    {
      "nickname": "sub1",
      "deletable": true,
      "editable": true,
      "competition": true
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
nickname	string	sub1	subaccount name
deletable	boolean	true	whether the subaccount can be deleted
editable	boolean	true	whether the nickname of the subaccount can be changed
competition	boolean	true	whether the subaccount was created for a competition

CREATE SUBACCOUNT

Request

```
POST /subaccounts
```

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```
{
  "nickname": "sub2",
}
```

Response

```
{
  "success": true,
  "result": {
    "nickname": "sub2",
    "deletable": true,
    "editable": true,
  }
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
nickname	string	sub2	

Response format

Name	Type	Value	Description
nickname	string	sub2	subaccount name
deletable	boolean	true	whether the subaccount can be deleted
editable	boolean	true	whether the nickname of the subaccount can be changed

CHANGE SUBACCOUNT NAME

Request

```
POST /subaccounts/update_name
```

```
{
  "nickname": "sub2",
  "newNickname": "newSub2"
}
```

Response

```
{
  "success": true,
  "result": null
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
nickname	string	sub2	current nickname of subaccount
newNickname	string	newSub2	new nickname of subaccount

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DELETE SUBACCOUNT

Request

```
DELETE /subaccounts
```

```
{
  "nickname": "sub2",
}
```

Response

```
{
  "success": true,
  "result": null
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
nickname	string	sub2	

GET SUBACCOUNT BALANCES

Request

```
GET /subaccounts/{nickname}/balances
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "USDT",
      "free": 4321.2,
      "total": 4340.2,
      "spotBorrow": 0,
      "availableWithoutBorrow": 2320.2
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
coin	string	USDT	coin id
free	number	4321.2	free amount
total	number	4340.2	total amount
spotBorrow	number	0	amount borrowed using spot margin
availableWithoutBorrow	number	2320.2	amount available without borrowing

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TRANSFER BETWEEN SUBACCOUNTS

Request

```
POST /subaccounts/transfer
```

```json
{
  "coin": "XRP",
  "size": 10000,
  "source": null,
  "destination": "sub1",
}
```

Response

```json
{
  "success": true,
  "result": {
    "id": 316450,
    "coin": "XRP",
    "size": 10000,
    "time": "2019-03-05T09:56:55.728933+00:00",
    "notes": "",
    "status": "complete",
  }
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
coin	string	XRP	
size	number	31431.0	
source	string	main	name of the source subaccount. Use `null` or `'main'` for the main account
destination	string	sub1	name of the destination subaccount. Use `null` or `'main'` for the main account

Response format

Name	Type	Value	Description
id	number	316450	
coin	string	XRP	
size	number	10000	
time	string	2019-03-05T09:56:55.728933+00:00	
notes	string		
status	string	complete	always `'complete'`

Markets

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This section covers all types of markets on FTX: spot, perpetual futures, expiring futures, and MOVE contracts. Examples for each type are `BTC/USD`, `BTC-PERP`, `BTC-0626`, and `BTC-MOVE-1005`. For futures that expired in 2019, prepend a `2019` to the date, like so: `BTC-20190628` or `BTC-MOVE-20190923`.

GET MARKETS

Request

```
GET /markets
```

Response

```json
{
  "success": true,
  "result": [
    {
      "name": "BTC-PERP",
      "baseCurrency": null,
      "quoteCurrency": null,
      "quoteVolume24h": 28914.76,
      "change1h": 0.012,
      "change24h": 0.0299,
      "changeBod": 0.0156,
      "highLeverageFeeExempt": false,
      "minProvideSize": 0.001,
      "type": "future",
      "underlying": "BTC",
      "enabled": true,
      "ask": 3949.25,
      "bid": 3949,
      "last": 10579.52,
      "postOnly": false,
      "price": 10579.52,
      "priceIncrement": 0.25,
      "sizeIncrement": 0.0001,
      "restricted": false,
      "volumeUsd24h": 28914.76,
      "largeOrderThreshold": 5000.0,
      "isEtfMarket": false,
    }
  ]
}
```

Response format

Name	Type	Value	Description
name	string	BTC-PERP	e.g. "BTC/USD" for spot, "BTC-PERP" for futures
baseCurrency	string	BTC	spot markets only
quoteCurrency	string	USD	spot markets only
quoteVolume24h	number	28914.76	
change1h	number	0.012	change in the past hour
change24h	number	0.0299	change in the past 24 hours
changeBod	number	0.0156	change since start of day (00:00 UTC)
highLeverageFeeExempt	boolean	false	
minProvideSize	number	0.001	Minimum maker order size (if >10 orders per hour fall below this size)

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Name	Type	Value	Description
type	string	future	"future" or "spot"
underlying	string	BTC	future markets only
enabled	boolean	true	
ask	number	3949.25	best ask
bid	number	3949.00	best bid
last	number	3949.00	last traded price
postOnly	boolean	false	if the market is in post-only mode (all orders get modified to be post-only, in addition to other settings they may have)
price	number	10579.52	current price
priceIncrement	number	0.25	
sizeIncrement	number	0.0001	
restricted	boolean	false	if the market has nonstandard restrictions on which jurisdictions can trade it
volumeUsd24h	number	28914.76	USD volume in past 24 hours
largeOrderThreshold	number	5000.0	threshold above which an order is considered large (for VIP rate limits)
isEtfMarket	boolean	false	if the market has an ETF as its baseCurrency

GET SINGLE MARKET

Request

```
GET /markets/{market_name}
```

Response

```
See /markets
```

GET ORDERBOOK

Request

```
GET /markets/{market_name}/orderbook?depth={depth}
```

Response

```
{
  "success": true,
  "result": {
    "asks": [
      [
        4114.25,
        6.263
      ]
    ],
    "bids": [
      [
        4112.25,
        49.29
      ]
    ]
```

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```
    ]
  }
}
```

Parameters

Name	Type	Value	Description
market_name	string	BTC-0628	Required. Name of the market.
depth	number	35	max 100, default 20

Response format

Name	Type	Value	Description
asks	array	[4114.25, 6.263]	Array with price and size
bids	array	[4112, 49.29]	Array with price and size

GET TRADES

Supports pagination

    Request

```
GET /markets/{market_name}/trades
```

    Response

```json
{
  "success": true,
  "result": [
    {
      "id": 3855995,
      "liquidation": false,
      "price": 3857.75,
      "side": "buy",
      "size": 0.111,
      "time": "2019-03-20T18:16:23.397991+00:00"
    }
  ]
}
```

Parameters

Name	Type	Value	Description
market_name	string	BTC-0628	name of the market
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response format

Name	Type	Value	Description
id	number	3855995	trade id
liquidation	boolean	false	if this trade involved a liquidation order

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Name	Type	Value	Description
price	number	3857.75	
side	string	buy	
size	number	0.111	
time	string	2019-03-20T18:16:23.397991+00:00	

GET HISTORICAL PRICES

Supports pagination

Historical prices of expired futures can be retrieved with this end point but make sure to specify start time and end time.

Request

```
GET /markets/{market_name}/candles?resolution={resolution}&start_time={start_time}&end_time={end_time}
```

Response

```json
{
  "success": true,
  "result": [
    {
      "close": 11055.25,
      "high": 11089.0,
      "low": 11043.5,
      "open": 11059.25,
      "startTime": "2019-06-24T17:15:00+00:00",
      "volume": 464193.95725
    }
  ]
}
```

Parameters

Name	Type	Value	Description
market_name	string	BTC-0628	name of the market
resolution	number	300	window length in seconds. options: 15, 60, 300, 900, 3600, 14400, 86400, or any multiple of 86400 up to 30*86400
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response format

Name	Type	Value	Description
startTime	string	2019-06-24T17:15:00+00:00	start time of the window
open	number	11059.25	mark price at startTime
close	number	11055.25	mark price at the end of the window: startTime + resolution
high	number	11089.0	highest mark price over the window
low	number	11059.25	lowest mark price over the window

Name	Type	Value	Description
volume	number	464193.95725	volume traded in the window

Futures

This section covers all types of futures on FTX: perpetual, expiring, and MOVE. Examples for each type are `BTC-PERP`, `BTC-0626`, and `BTC-MOVE-1005`. For futures that expired in 2019, prepend a `2019` to the date, like so: `BTC-20190628`.

LIST ALL FUTURES

Request

```
GET /futures
```

Response

```
{
  "success": true,
  "result": [
    {
      "ask": 4196,
      "bid": 4114.25,
      "change1h": 0,
      "change24h": 0,
      "changeBod": 0,
      "volumeUsd24h": 100000000,
      "volume": 24390.24,
      "description": "Bitcoin March 2019 Futures",
      "enabled": true,
      "expired": false,
      "expiry": "2019-03-29T03:00:00+00:00",
      "index": 3919.58841011,
      "imfFactor": 0.002,
      "last": 4196,
      "lowerBound": 3663.75,
      "mark": 3854.75,
      "name": "BTC-0329",
      "openInterest": 12.23,
      "openInterestUsd": 47265.8925,
      "perpetual": false,
      "positionLimitWeight": 1.0,
      "postOnly": false,
      "priceIncrement": 0.25,
      "sizeIncrement": 0.0001,
      "underlying": "BTC",
      "upperBound": 4112.2,
      "type": "future"
    }
  ]
}
```

Response format

Name	Type	Value	Description
ask	number	4196.0	best ask on the orderbook
bid	number	4114.25	best bid on the orderbook
change1h	number	0.0	price change in the last hour

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Name	Type	Value	Description
change24h	number	0.0	price change in the last 24 hours
changeBod	number	0.0	price change since midnight UTC (beginning of day)
volumeUsd24h	number	100000000	USD volume in the last 24 hours
volume	number	24390.24	quantity traded in the last 24 hours
description	string	Bitcoin March 2019 Futures	
enabled	boolean	true	
expired	boolean	false	
expiry	string	2019-03-29T03:00:00+00:00	
index	number	3919.58841011	average of the Market Prices for the constituent markets in the index
imfFactor	number	0.002	
last	number	4196.0	last price the future traded at
lowerBound	number	3663.75	the lowest price the future can trade at
mark	number	3854.75	mark price of the future
name	string	BTC-0329	
openInterest	number	12.23	open interest (in number of contracts)
openInterestUsd	number	47265.8925	open interest (in USD)
perpetual	boolean	false	whether or not this is a perpetual contract
positionLimitWeight	number	1.0	
postOnly	boolean	false	
priceIncrement	number	0.25	
sizeIncrement	number	0.0001	
underlying	string	BTC	
upperBound	number	4112.2	the highest price the future can trade at
type	string	future	One of `future`, `perpetual`, or `move`

GET FUTURE

Request

```
GET /futures/{future_name}
```

Response

```
{
  "success": true,
  "result": {
    "ask": 4196,
    "bid": 4114.25,
```

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```
      "change1h": 0,
      "change24h": 0,
      "description": "Bitcoin March 2019 Futures",
      "enabled": true,
      "expired": false,
      "expiry": "2019-03-29T03:00:00+00:00",
      "index": 3919.58841011,
      "last": 4196,
      "lowerBound": 3663.75,
      "mark": 3854.75,
      "name": "BTC-0329",
      "perpetual": false,
      "postOnly": false,
      "priceIncrement": 0.25,
      "sizeIncrement": 0.0001,
      "underlying": "BTC",
      "upperBound": 4112.2,
      "type": "future"
    }
  }
```

Response format

Name	Type	Value	Description
ask	number	4196.0	best ask on the orderbook
bid	number	4114.25	best bid on the orderbook
change1h	number	0.0	price change in the last hour
change24h	number	0.0	price change in the last 24 hours
description	string	Bitcoin March 2019 Futures	
enabled	boolean	true	
expired	boolean	false	
expiry	string	2019-03-29T03:00:00+00:00	
index	number	3919.58841011	average of the Market Prices for the constituent markets in the index
last	number	4196.0	last price the future traded at
lowerBound	number	3663.75	the lowest price the future can trade at
mark	number	3854.75	mark price of the future
name	string	BTC-0329	
perpetual	boolean	false	whether or not this is a perpetual contract
postOnly	boolean	false	
priceIncrement	number	0.25	
sizeIncrement	number	0.0001	
underlying	string	BTC	
upperBound	number	4112.2	the highest price the future can trade at
type	string	future	One of `future`, `perpetual`, or `move`

GET FUTURE STATS

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Request

```
GET /futures/{future_name}/stats
```

Response

```json
{
  "success": true,
  "result": {
    "volume": 1000.23,
    "nextFundingRate": 0.00025,
    "nextFundingTime": "2019-03-29T03:00:00+00:00",
    "expirationPrice": 3992.1,
    "predictedExpirationPrice": 3993.6,
    "strikePrice": 8182.35,
    "openInterest": 21124.583
  }
}
```

Response format

Name	Type	Value	Description
volume	number	1000.23	quantity traded in the last 24 hours
nextFundingRate	number	0.00025	upcoming funding rate (only applicable for perpetual contracts)
nextFundingTime	string	2019-03-29T03:00:00+00:00	upcoming funding time (only applicable for perpetual contracts)
expirationPrice	number	3992.1	price to which the future expired (only applicable if the future has expired)
predictedExpirationPrice	number	3993.0	only applicable if the future has not expired
openInterest	number	21124.583	number of open contracts in this future
strikePrice	number	8182.35009484	price of the underlying at the beginning of the expiration day (only applicable for MOVE contracts)

GET FUNDING RATES

Supports pagination

Request

```
GET /funding_rates
```

Parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional
future	string	BTC-PERP	optional

Response

```json
{
  "success": true,
```

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```
 "result": [
   {
     "future": "BTC-PERP",
     "rate": 0.0025,
     "time": "2019-06-02T08:00:00+00:00"
   }
 ]
}
```

Response format

Name	Type	Value	Description
future	string	BTC-PERP	
rate	number	0.0025	
time	string	2019-06-02T08:00:00+00:00	

GET INDEX WEIGHTS

Request

```
GET /indexes/{index_name}/weights
```

Note that this only applies to index futures, e.g. ALT/MID/SHIT/EXCH/DRAGON.

Response

```
{
  "success": true,
  "result": {
    "BCH": 0.3492,
    "BNB": 2.8632,
    "BSV": 0.3471,
    "EOS": 18.1707,
    "ETH": 0.5724,
    "LTC": 1.2973,
    "XRP": 573.6345,
  }
}
```

GET EXPIRED FUTURES

Returns the list of all expired futures.

Request

```
GET /expired_futures
```

Response

```
{
  "success": true,
  "result": [
    {
      "ask": null,
      "bid": null,
      "description": "Bitcoin March 2020 Futures",
      "enabled": false,
      "expired": true,
      "expiry": "2020-03-27T03:00:00+00:00",
      "expiryDescription": "March 2020",
      "group": "quarterly",
      "imfFactor": 0.002,
      "index": 6807.943073426,
```

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```
        "last": 6804.75,
        "lowerBound": 6467.75,
        "marginPrice": 6801.1226609324885,
        "mark": 6801.1226609324885,
        "moveStart": null,
        "name": "BTC-0327",
        "perpetual": false,
        "positionLimitWeight": 2.0,
        "postOnly": false,
        "priceIncrement": 0.5,
        "sizeIncrement": 0.0001,
        "type": "future",
        "underlying": "BTC",
        "underlyingDescription": "Bitcoin",
        "upperBound": 7152.75
      }
    ]
  }
```

GET HISTORICAL INDEX

Supports pagination

Request

```
GET /indexes/{market_name}/candles?resolution={resolution}&start_time={start_time}&end_time={end_time}
```

Response

```
{
  "success": true,
  "result": [
    {
      "close": 11055.25,
      "high": 11089.0,
      "low": 11043.5,
      "open": 11059.25,
      "startTime": "2019-06-24T17:15:00+00:00",
      "volume": null
    }
  ]
}
```

Parameters

Name	Type	Value	Description
market_name	string	BTC	name of the market
resolution	number	300	window length in seconds. options: 15, 60, 300, 900, 3600, 14400, 86400, or any multiple of 86400 up to 30*86400
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response format

Name	Type	Value	Description
startTime	string	2019-06-24T17:15:00+00:00	start time of the window
open	number	11059.25	mark price at startTime
close	number	11055.25	mark price at the end of the window: startTime + resolution

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Name	Type	Value	Description
high	number	11089.0	highest mark price over the window
low	number	11059.25	lowest mark price over the window
volume	number	null	volume traded in the window

GET INDEX CONSTITUENTS

Request

```
GET /index_constituents/{underlying}
```

Response

```
{
  "success": true,
  "result": [
    ["binance","BTC","TUSD"],
    ["bitstamp","BTC","USD"],
    ["bittrex","BTC","USD"],
    ...
  ]
}
```

Parameters

Name	Type	Value	Description
underlying	string	BTC	underlying coin for index

Response format

Response is a list of index inputs, each row contains:

Name	Type	Value	Description
exchange	string	binance	index constituent source
base currency	string	BTC	
quote currency	string	TUSD	

Account

GET ACCOUNT INFORMATION

Request

```
GET /account
```

Response

```
{
  "success": true,
  "result": {
    "backstopProvider": true,
```

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```
      "collateral": 3568181.02691129,
      "freeCollateral": 1786071.456884368,
      "initialMarginRequirement": 0.12222384240257728,
      "leverage": 10,
      "liquidating": false,
      "maintenanceMarginRequirement": 0.07177992558058484,
      "makerFee": 0.0002,
      "marginFraction": 0.5588433331419503,
      "openMarginFraction": 0.2447194090423075,
      "takerFee": 0.0005,
      "totalAccountValue": 3568180.98341129,
      "totalPositionSize": 6384939.6992,
      "username": "user@domain.com",
      "positions": [
        {
          "cost": -31.7906,
          "entryPrice": 138.22,
          "future": "ETH-PERP",
          "initialMarginRequirement": 0.1,
          "longOrderSize": 1744.55,
          "maintenanceMarginRequirement": 0.04,
          "netSize": -0.23,
          "openSize": 1744.32,
          "realizedPnl": 3.39441714,
          "shortOrderSize": 1732.09,
          "side": "sell",
          "size": 0.23,
          "unrealizedPnl": 0
        }
      ]
    }
  }
}
```

Requires authentication.

Response format

Name	Type	Value	Description
backstopProvider	boolean	true	whether or not the account is a registered backstop liquidity provider
collateral	number	3568181.02691129	amount of collateral
freeCollateral	number	1786071.456884368	amount of free collateral
initialMarginRequirement	number	0.12222384240257728	average of initialMarginRequirement for individual futures, weighed by position notional. Cannot open new positions if openMarginFraction falls below this value.
liquidating	boolean	false	True if the account is currently being liquidated
maintenanceMarginRequirement	number	0.07177992558058484	Average of maintenanceMarginRequirement for individual futures, weighed by position notional. Account enters liquidation mode if margin fraction falls below this value.
makerFee	number	0.0002 -	
marginFraction	number	0.5588433331419503 -	ratio between total account value and total account position notional.
openMarginFraction	number	0.2447194090423075	Ratio between total realized account value and total open position notional
takerFee	number	0.0005	
totalAccountValue	number	3568180.98341129	total value of the account, using mark price for positions
totalPositionSize	number	6384939.6992	total size of positions held by the account, using mark price

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Name	Type	Value	Description
username	string	user@domain.com	
leverage	number	10.0	Max account leverage
positions	array		See Get positions for details

REQUEST HISTORICAL BALANCES AND POSITIONS SNAPSHOT

Request

```
POST /historical_balances/requests
```

```
{
  "accounts": ["main", "subaccount1"],
  "endTime": 1646376865,
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
accounts	list	["main", "subaccount1"]	list of subaccounts to request results for
endTime	number	1646376865	time to fetch balances and positions for

Response

```
{
  "success": true,
  "result": 12332
}
```

Name	Type	Value	Description
id	number	12332	id of the snapshot

GET HISTORICAL BALANCES AND POSITIONS SNAPSHOT

Request

```
GET /historical_balances/requests/<request_id>
```

Requires authentication.

Response

```
{
  "success": true,
  "result": {
    "id": 12332,
    "accounts": ["main", "subaccounts"],
    "time": 1646356865,
    "endTime": 1646376865,
    "status": "done",
    "error": false,
    "results": [
      {"account": "main", "ticker": "BTC-PERP", "size": -1.2, "price": 40122.13},
```

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```
       {"account": "main", "ticker": "USD", "size": 10000.3},
     ]
   }
 }
```

Name	Type	Value	Description
id	number	12332	
accounts	list	["main", "subaccount1"]	list of subaccounts to request results for
time	number	1646356865	time the request was made
endTime	number	1646376865	time of balances and positions
error	boolean	false	if there was an error in generating the snapshot
status	string	complete	one of 'requested', 'processing', 'done', 'cancelled'
results	dict		balance and position snapshots

Each item in `results` has the format:

Name	Type	Value	Description
account	string	main	name of subaccount
ticker	string	BTC-PERP	name of product (future, option, token, or currency)
size	number	-1.2	size of balance or position at endTime
price	number	40122.13	mark price of future at endTime (null for options and balances entries)

GET ALL HISTORICAL BALANCES AND POSITIONS SNAPSHOTS

Request

```
GET /historical_balances/requests
```

Requires authentication.

Response

```
{
  "success": true,
  "result": [
    {
      "id": 12332,
      "accounts": ["main", "subaccounts"],
      "time": 1646356865,
      "endTime": 1646376865,
      "status": "done",
      "error": false,
      "results": [
        {"account": "main", "ticker": "BTC-PERP", "size": -1.2, "price": 40122.13},
        {"account": "main", "ticker": "USD", "size": 10000.3},
      ]
    }
  ]
}
```

GET POSITIONS

Request

```
GET /positions
```

Response

```json
{
  "success": true,
  "result": [
    {
      "cost": -31.7906,
      "cumulativeBuySize": 1.2,
      "cumulativeSellSize": 0.0,
      "entryPrice": 138.22,
      "estimatedLiquidationPrice": 152.1,
      "future": "ETH-PERP",
      "initialMarginRequirement": 0.1,
      "longOrderSize": 1744.55,
      "maintenanceMarginRequirement": 0.04,
      "netSize": -0.23,
      "openSize": 1744.32,
      "realizedPnl": 3.39441714,
      "recentAverageOpenPrice": 135.31,
      "recentBreakEvenPrice": 135.31,
      "recentPnl": 3.1134,
      "shortOrderSize": 1732.09,
      "side": "sell",
      "size": 0.23,
      "unrealizedPnl": 0,
      "collateralUsed": 3.17906
    }
  ]
}
```

Requires authentication.

Parameters

Name	Type	Value	Description
showAvgPrice	boolean	false	optional

Response format

Name	Type	Value	Description
cost	number	-31.7906	Amount that was paid to enter this position, equal to size * entry_price. Positive if long, negative if short.
cumulativeBuySize	number	1.2	
cumulativeSellSize	number	0.0	
entryPrice	number	138.22	Average cost of this position after pnl was last realized: whenever unrealized pnl gets realized, this field gets set to mark price, unrealizedPnL is set to 0, and realizedPnl changes by the previous value for unrealizedPnl.
estimatedLiquidationPrice	number	152.1	
future	string	ETH-PERP	future name
initialMarginRequirement	number	0.1	Minimum margin fraction for opening new positions
longOrderSize	number	1744.55	Cumulative size of all open bids
maintenanceMarginRequirement	number	0.04	Minimum margin fraction to avoid liquidations

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Name	Type	Value	Description
netSize	number	-0.23	Size of position. Positive if long, negative if short.
openSize	number	1744.32	Maximum possible absolute position size if some subset of open orders are filled
realizedPnl	number	3.39441714	
recentAverageOpenPrice	number	135.31	
recentBreakEvenPrice	number	135.31	
recentPnl	number	3.1134	
shortOrderSize	number	1732.09	Cumulative size of all open offers
side	string	sell	`sell` if short, `buy` if long
size	number	0.23	Absolute value of netSize
unrealizedPnl	number	0.0	
collateralUsed	number	3.17906	Is equal to: • For PRESIDENT: initialMarginRequirement * openSize * (risk price) • For MOVE: initialMarginRequirement * openSize * (index price) • Otherwise: initialMarginRequirement * openSize * (mark price)

CHANGE ACCOUNT LEVERAGE

Request

```
POST /account/leverage
```

```
{
  "leverage": 10,
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
leverage	number	10	desired account-wide leverage setting

Wallet

GET COINS

Request

```
GET /wallet/coins
```

Response

```
{
  "success": true,
  "result": [
    {
      "bep2Asset": null,
      "canConvert": true,
      "canDeposit": true,
      "canWithdraw": true,
      "collateral": true,
      "collateralWeight": 0.975,
      "creditTo": null,
      "erc20Contract": "0xdAC17F958D2ee523a2206206994597C13D831ec7",
      "fiat": false,
      "hasTag": false,
      "id": "USDT",
      "isToken": false,
      "methods": ["omni", "erc20", "trx", "sol"],
      "name": "USD Tether",
      "splMint": "BQcdHdAQW1hczDbBi9hiegXAR7A98Q9jx3X3iBBBDiq4",
      "trc20Contract": "TR7NHqjeKQxGTCi8q8ZY4pL8otSzgjLj6t",
      "usdFungible": false
    }
  ]
}
```

Response format

Name	Type	Value	Description
canDeposit	boolean	true	true if this coin can be deposited via a crypto transaction
canWithdraw	boolean	true	true if this coin can be withdrawn via a crypto transaction
hasTag	boolean	false	true if addresses for this coin have a tag
id	string	USDT	
name	string	USD Tether	
bep2Asset	string	null	
canConvert	boolean	true	
collateral	boolean	true	
collateralWeight	number	0.975	
creditTo	string	null	
erc20Contract	string	0xdAC17F958D2ee523a2206206994597C13D831ec7	
fiat	boolean	false	
isToken	boolean	false	
methods	array	["omni", "erc20", "trx", "sol"]	
splMint	string	BQcdHdAQW1hczDbBi9hiegXAR7A98Q9jx3X3iBBBDiq4	
trc20Contract	string	TR7NHqjeKQxGTCi8q8ZY4pL8otSzgjLj6t	
usdFungible	boolean	false	

GET BALANCES

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Request

```
GET /wallet/balances
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "USDTBEAR",
      "free": 2320.2,
      "spotBorrow": 0.0,
      "total": 2340.2,
      "usdValue": 2340.2,
      "availableWithoutBorrow": 2320.2
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
coin	string	USDTBEAR	coin id
free	number	2320.2	free amount
spotBorrow	number	0	amount borrowed using spot margin
total	number	2340.2	total amount
usdValue	number	2340.2	approximate total amount in USD
availableWithoutBorrow	number	2320.2	amount available without borrowing

GET BALANCES OF ALL ACCOUNTS

Request

```
GET /wallet/all_balances
```

Response

```
{
  "success": true,
  "result": {
    "main": [
      {
        "coin": "USDTBEAR",
        "free": 2320.2,
        "spotBorrow": 0.0,
        "total": 2340.2,
        "usdValue": 2340.2,
        "availableWithoutBorrow": 2320.2
      },
      {
        "coin": "BTC",
        "free": 2.0,
        "spotBorrow": 0.0,
        "total": 3.2,
```

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```
          "usdValue": 23456.7,
          "availableWithoutBorrow": 2.0
        }
      ],
      "Battle Royale": [
        {
          "coin": "USD",
          "free": 2000.0,
          "spotBorrow": 0.0,
          "total": 2200.0,
          "usdValue": 2200.0,
          "availableWithoutBorrow": 2000.0
        }
      ]
    }
  }
```

Requires authentication.

The response will contain an object whose keys are the subaccount names. The main account will appear under the key `main`.

Response format

Name	Type	Value	Description
coin	string	USDTBEAR	coin id
free	number	2320.2	free amount
spotBorrow	number	0	amount borrowed using spot margin
total	number	2340.2	total amount
usdValue	number	2340.2	total amount in USD
availableWithoutBorrow	number	2320.2	amount available without borrowing

GET DEPOSIT ADDRESS

Request

```
GET /wallet/deposit_address/{coin}?method={method}
```

Response

```
{
  "success": true,
  "result": {
    "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
    "tag": null
  }
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
coin	string	USDT	
method	string	erc20	optional; for coins available on different blockchains (e.g USDT)

- For `ERC20` tokens: `method=erc20`
- For `TRC20` tokens: `method=trx`

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- For `SPL` tokens: `method=sol`
- For `Omni` tokens: `method=omni`
- For `BEP2` tokens: `method=bep2`
- For `Binance Smart Chain` tokens: `method=bsc`
- For `Fantom` tokens: `method=ftm`
- For `Avax` tokens: `method=avax`
- For `Matic` tokens: `method=matic`

Response format

Name	Type	Value	Description
address	string	`0x83a127952d266A6eA306c40Ac62A4a70668FE3BE`	
tag	string	`null`	optional

GET DEPOSIT ADDRESS LIST

Request

```
POST /wallet/deposit_address/list
```

```
[
    {
        "coin": "USDT",
        "method": "erc20"
    },
    {
        "coin": "ETH",
    }
]
```

Response

```
{
    "success": true,
    "result": [{
        "coin": "USDT"
        "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
        "tag": "null"
    }]
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
coin	string	USDT	
method	string	erc20	optional; for coins available on different blockchains (e.g USDT)

- For `ERC20` tokens: `method=erc20`
- For `TRC20` tokens: `method=trx`
- For `SPL` tokens: `method=sol`
- For `Omni` tokens: `method=omni`
- For `BEP2` tokens: `method=bep2`
- For `Binance Smart Chain` tokens: `method=bsc`
- For `Fantom` tokens: `method=ftm`
- For `Avax` tokens: `method=avax`
- For `Matic` tokens: `method=matic`

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Response format

Name	Type	Value	Description
coin	string	USDT	
address	string	`0x83a127952d266A6eA306c40Ac62A4a70668FE3BE`	
tag	string	`null`	optional

GET DEPOSIT HISTORY

Request

```
GET /wallet/deposits
```

Response

```json
{
  "success": true,
  "result": [
    {
      "coin": "TUSD",
      "confirmations": 64,
      "confirmedTime": "2019-03-05T09:56:55.728933+00:00",
      "fee": 0,
      "id": 1,
      "sentTime": "2019-03-05T09:56:55.735929+00:00",
      "size": 99.0,
      "status": "confirmed",
      "time": "2019-03-05T09:56:55.728933+00:00",
      "txid": "0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7ffcaf1"
    }
  ]
}
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1564146934	optional; minimum time of items to return, in Unix time (seconds since 1970-01-01)
end_time	number	1564233334	optional; maximum time of items to return, in Unix time (seconds since 1970-01-01)

Response format

Name	Type	Value	Description
coin	string	TUSD	coin id
confirmations	number	64	number of blockchain confirmations
confirmedTime	string	2019-03-05T09:56:55.728933+00:00	
fee	number	0.0	fee, not included in size
id	number	1	deposit id
sentTime	string	2019-03-05T09:56:55.735929+00:00	

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Name	Type	Value	Description
size	string	99.0	
status	string	confirmed	one of "confirmed", "unconfirmed", or "cancelled"
time	string	2019-03-05T09:56:55.728933+00:00	
txid	string	0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7ffcaf1	optional
notes	string	Transfer from main account to my_subaccount	optional

GET WITHDRAWAL HISTORY

Request

```
GET /wallet/withdrawals
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "TUSD",
      "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
      "tag": null,
      "fee": 0,
      "id": 1,
      "size": 99.0,
      "status": "complete",
      "time": "2019-03-05T09:56:55.728933+00:00",
      "method": "erc20",
      "txid": "0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7ffcaf1"
    }
  ]
}
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1564146934	optional; minimum time of items to return, in Unix time (seconds since 1970-01-01)
end_time	number	1564233334	optional; maximum time of items to return, in Unix time (seconds since 1970-01-01)

Response format

Name	Type	Value	Description
coin	string	TUSD	coin id
address	string	0x83a127952d266A6eA306c40Ac62A4a70668FE3BE	deposit address the withdrawal was sent to
tag	string	null	
fee	number	0.0	fee, not included in size
id	number	1	withdrawal id

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Name	Type	Value	Description
size	string	99.0	
status	string	complete	one of "requested", "processing", "sent", "complete", or "cancelled"
time	string	2019-03-05T09:56:55.728933+00:00	
method string	erc20	protocol used for the blockchain transfer	
txid	string	`0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7f fcaf1`	optional
notes	string	Transfer from main account to my_subaccount	optional

REQUEST WITHDRAWAL

Request

```
POST /wallet/withdrawals
```

```
{
  "coin": "USDTBEAR",
  "size": 20.2,
  "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
  "tag": null,
  "password": "my_withdrawal_password",
  "code": 152823
}
```

Response

```
{
  "success": true,
  "result": {
    "coin": "USDTBEAR",
    "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
    "tag": null,
    "fee": 0,
    "id": 1,
    "size": 20.2,
    "status": "requested",
    "time": "2019-03-05T09:56:55.728933+00:00",
    "txid": null
  }
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
coin	string	USDTBEAR	coin to withdraw
size	number	20.2	amount to withdraw
address	string	`0x83a127952d266A6eA306c40Ac62A4a70668FE3BE`	address to send to
tag	string	null	optional

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Name	Type	Value	Description
method	string	null	optional; blockchain to use for withdrawal
password	string	null	optional; withdrawal password if it is required for your account
code	string	null	optional; 2fa code if it is required for your account

- For `ERC20` tokens: `method=erc20`
- For `TRC20` tokens: `method=trx`
- For `SPL` tokens: `method=sol`
- For `Omni` tokens: `method=omni`
- For `BEP2` tokens: `method=bep2`
- For `Binance Smart Chain` tokens: `method=bsc`
- For `Fantom` tokens: `method=ftm`
- For `Avax` tokens: `method=avax`
- For `Matic` tokens: `method=matic`

Response format

Name	Type	Value	Description
coin	string	USDTBEAR	coin id
address	string	`0x83a127952d266A6eA306c40Ac62A4a70668FE3BE`	deposit address the withdrawal was sent to
tag	string	null	
fee	number	0.0	fee, not included in size
id	number	1	withdrawal id
size	string	20.2	
status	string	requested	one of "requested", "processing", "complete", or "cancelled"
time	string	2019-03-05T09:56:55.728933+00:00	
txid	string	null	

GET AIRDROPS

This endpoint provides you with updates to your AMPL balances based on AMPL rebases.

Request

```
GET /wallet/airdrops
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "AMPL",
      "id": 1,
      "size": 99.0,
      "time": "2019-03-05T09:56:55.728933+00:00",
      "status": "complete"
    }
  ]
}
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1564146934	optional; minimum time of items to return, in Unix time (seconds since 1970-01-01)
end_time	number	1564233334	optional; maximum time of items to return, in Unix time (seconds since 1970-01-01)

Response format

Name	Type	Value	Description
coin	string	AMPL	coin id
id	number	1	aidrop id
size	string	99.0	
status	string	confirmed	one of "confirmed" or "pending"
time	string	2019-03-05T09:56:55.728933+00:00	

GET WITHDRAWAL FEES

Request

```
GET /wallet/withdrawal_fee
```

```
{
  "coin": "USDC",
  "size": 20.2,
  "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
  "tag": null
}
```

Response

```
{
  "success": true,
  "result": {
    "method": "erc20",
    "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
    "fee": 0,
    "congested": false
  }
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
coin	string	COIN	coin to withdraw
size	number	20.2	amount to withdraw
address	string	0x83a127952d266A6eA306c40Ac62A4a70668FE3BE	address to send to

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Name	Type	Value	Description
tag	string	null	optional
method	string	erc20	optional; for coins available on different blockchains (e.g USDT)

- For `ERC20` tokens: `method=erc20`
- For `TRC20` tokens: `method=trx`
- For `SPL` tokens: `method=sol`
- For `Omni` tokens: `method=omni`
- For `BEP2` tokens: `method=bep2`
- For `Binance Smart Chain` tokens: `method=bsc`
- For `Fantom` tokens: `method=ftm`
- For `Avax` tokens: `method=avax`
- For `Matic` tokens: `method=matic`

Response format

Name	Type	Value	Description
method	string	blockchain protocol that will be used	
fee	number	0	fee that will be charged on the withdrawal (size - fee will be sent to the destination)
congested	boolean	false	if this blockchain is currently congested

GET SAVED ADDRESSES

This endpoint provides you with your saved addresses

Request

```
GET /wallet/saved_addresses
```

Response

```
{
  "success": true,
  "result": [
    {
      "address": "0xb2EA1CC386A260c9Ae3ebda2cb7AEd212b034Ab4",
      "coin": "ETH",
      "fiat": false,
      "id": 31189,
      "isPrimetrust": false,
      "lastUsedAt": "2020-09-21T15:38:11.795763+00:00",
      "name": "MetaMask 1",
      "tag": null,
      "whitelisted": true,
      "whitelistedAfter": "2020-08-26T09:41:53.959256+00:00"
    },
    {
      "address": "0xE4Ba8791E0fdbdc50024898A384FecFD90e69553",
      "coin": "ETH",
      "fiat": false,
      "id": 46725,
      "isPrimetrust": false,
      "lastUsedAt": "2020-09-21T09:16:46.918175+00:00",
      "name": "Ledger Nano S",
      "tag": null,
      "whitelisted": true,
      "whitelistedAfter": "2020-09-21T09:16:16.829467+00:00"
    }
  ]
```

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```
    }
```

Requires authentication.

Request parameters

Name	Type	Value	Description
coin	string	ETH	optional, filters saved addresses by coin;

Response format

Name	Type	Value	Description
address	string	"0xb2EA1CC386A260c9Ae3ebda2cb7AEd212b034Ab4"	
coin	string	ETH	coin id
fiat	boolean	false	
id	int	31189	
isPrimetrust	boolean	false	
lastUsedAt	string	"2020-09-21T15:38:11.795763+00:00"	
tag	string	null	
whitelisted	boolean	true	`true` if the address is whitelisted, `null` if the address has never been whitelisted or has been unwhitelisted
whitelistedAfter	string	"2020-09-21T09:16:16.829467+00:00"	Date after which the address has been whitelisted, `null` if the address has never been whitelisted or has been unwhitelisted

CREATE SAVED ADDRESSES

Request

```
POST /wallet/saved_addresses
```

```
{
  "coin": "USDC",
  "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
  "wallet": "sol",
  "addressName": "MetaMask",
  "code": 123456
}
```

Response

```
{
  "success": true,
  "result": {
    "address": "0x83a127952d266A6eA306c40Ac62A4a70668FE3BE",
    "coin": "USDC",
    "fiat": false,
    "id": 52382,
    "isPrimetrust": false,
    "isSwipeCard": false,
    "lastUsedAt": "2020-10-08T06:11:03.072427+00:00",
    "name": "MetaMask",
    "tag": null,
```

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```
        "wallet": "sol",
        "whitelisted": null,
        "whitelistedAfter": null
    }
  }
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
coin	string	USDC	coin id
address	string	0xb2EA1CC386A260c9Ae3ebda2cb7AEd212b034Ab4	
wallet	string	sol	chain; must be supplied for multi-chain coins
addressName	string	MetaMask	
isPrimetrust	boolean	false	
tag	string	null	optional, tag for the address
whitelist	boolean	false	Pass `true` if the user has whitelisting enabled and would like this new address to be whitelisted
code	number	123456	optional; 2fa code if it is required for your account

- For `ERC20` tokens: `wallet=erc20`
- For `TRC20` tokens: `wallet=trx`
- For `SPL` tokens: `wallet=sol`
- For `Omni` tokens: `wallet=omni`
- For `BEP2` tokens: `wallet=bep2`
- For `Binance Smart Chain` tokens: `wallet=bsc`
- For `Fantom` tokens: `wallet=ftm`
- For `Avax` tokens: `wallet=avax`
- For `Matic` tokens: `wallet=matic`

Response format

Name	Type	Value	Description
address	string	0xb2EA1CC386A260c9Ae3ebda2cb7AEd212b034Ab4	
coin	string	USDC	coin id
fiat	boolean	false	
id	int	52382	
isPrimetrust	boolean	false	
isSwipeCard	boolean	false	
lastUsedAt	string	2020-10-08T06:11:03.072427+00:00	
name	string	MetaMask	
tag	string	null	
wallet	string	sol	chain; must be supplied for multi-chain coins

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Name	Type	Value	Description
whitelisted	boolean	null	`true` if the address is whitelisted, `null` if the address has never been whitelisted or has been unwhitelisted
whitelistedAfter	boolean	null	Date after which the address has been whitelisted, `null` if the address has never been whitelisted or has been unwhitelisted

DELETE SAVED ADDRESSES

Request

```
DELETE /wallet/saved_addresses/{saved_address_id}
```

Response

```
{
  "success": true,
  "result": "Address deleted"
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
saved_address_id	int	52382	

REGISTER A SEN DEPOSIT

Request

```
POST /sen/deposits/{sen_link_id}
```

```
{
  "size": 175.0
}
```

Response

```
"Success"
```

Requires authentication.

Register a SEN deposit within our system. In order to be auto-credited, you must register the deposit with us beforehand.

Name	Type	Value	Description
sen_link_id	int	142	Unique ID of the SEN link
size	number	175.0	Amount of the deposit

REQUEST A SEN WITHDRAWAL

Request

```
POST /sen/withdrawals/{sen_link_id}
```

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```
{
  "size": 175.0
}
```

Response

```
"Success"
```

Requires authentication.

Request a Signet withdrawal.

Name	Type	Value	Description
signet_link_id	int	142	Unique ID of the SEN link
size	number	175.0	Amount of the withdrawal

REGISTER A SIGNET DEPOSIT

Request

```
POST /signet/deposits/{signet_link_id}
```

```
{
  "size": 175.0
}
```

Response

```
"Success"
```

Requires authentication.

Request a Signet withdrawal.

Name	Type	Value	Description
signet_link_id	int	142	Unique ID of the Signet link
size	number	175.0	Amount of the deposit

REQUEST A SIGNET WITHDRAWAL

Request

```
POST /signet/withdrawals/{signet_link_id}
```

```
{
  "size": 175.0
}
```

Response

```
"Success"
```

Requires authentication.

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Request a Signet withdrawal.

Name	Type	Value	Description
signet_link_id	int	142	Unique ID of the Signet link
size	number	175.0	Amount of the withdrawal

Orders

GET OPEN ORDERS

Request

```
GET /orders?market={market}
```

Response

```json
{
  "success": true,
  "result": [
    {
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "filledSize": 10,
      "future": "XRP-PERP",
      "id": 9596912,
      "market": "XRP-PERP",
      "price": 0.306525,
      "avgFillPrice": 0.306526,
      "remainingSize": 31421,
      "side": "sell",
      "size": 31431,
      "status": "open",
      "type": "limit",
      "reduceOnly": false,
      "ioc": false,
      "postOnly": false,
      "clientId": null
    }
  ]
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
market	string	BTC-0329	optional; market to limit orders

Response format

Name	Type	Value	Description
id	number	9596912	
market	string	XRP-PERP	
type	string	limit	

Name	Type	Value	Description
side	string	sell	
price	number	0.306525	
size	number	31431.0	
filledSize	number	10.0	
remainingSize	number	31421.0	
avgFillPrice	number	0.306526	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
createdAt	string	2019-03-05T09:56:55.728933+00:00	
reduceOnly	boolean	false	
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	optional; client order id	

GET ORDER HISTORY

Request

```
GET /orders/history?market={market}
```

Response

```json
{
  "success": true,
  "result": [
    {
      "avgFillPrice": 10135.25,
      "clientId": null,
      "createdAt": "2019-06-27T15:24:03.101197+00:00",
      "filledSize": 0.001,
      "future": "BTC-PERP",
      "id": 257132591,
      "ioc": false,
      "market": "BTC-PERP",
      "postOnly": false,
      "price": 10135.25,
      "reduceOnly": false,
      "remainingSize": 0.0,
      "side": "buy",
      "size": 0.001,
      "status": "closed",
      "type": "limit"
    },
  ],
  "hasMoreData": false,
}
```

Requires authentication.

Supports pagination

Request parameters

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Name	Type	Value	Description
market	string	BTC-0329	optional; market to limit orders
side	string	buy	optional; buy or sell side
orderType	string	limit	optional; market or limit orders
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559901511	optional; only fetch orders created before this time

Response format

Name	Type	Value	Description
id	number	257132591	
market	string	BTC-PERP	
type	string	limit	
side	string	buy	
price	number	10135.25	
size	number	0.001	
filledSize	number	0.001	
remainingSize	number	0.0	
avgFillPrice	number	10135.25	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
createdAt	string	2019-06-27T15:24:03.101197+00:00	
reduceOnly	boolean	false	
ioc	boolean	false	
postOnly	boolean	false	
clientId	string		optional; client order id

GET OPEN TRIGGER ORDERS

Request

```
GET /conditional_orders?market={market}
```

Response

```
{
  "success": true,
  "result": [
    {
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "error": null,
      "future": "XRP-PERP",
      "id": 50001,
      "market": "XRP-PERP",
```

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```
          "orderId": null,
          "orderPrice": null,
          "reduceOnly": false,
          "side": "buy",
          "size": 0.003,
          "status": "open",
          "trailStart": null,
          "trailValue": null,
          "triggerPrice": 0.49,
          "triggeredAt": null,
          "type": "stop"
          "orderType": "market",
          "filledSize": 0,
          "avgFillPrice": null,
          "retryUntilFilled": false
      ]
  }
```

Requires authentication.

Request parameters

Name	Type	Value	Description
market	string	XRP-PERP	optional; market to limit orders
type	string	stop	optional; type of trigger order (`stop`, `trailing_stop`, or `take_profit`)

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T09:56:55.728933+00:00	
error	string	null	[DEPRECATED] error that occurred on most recent trigger, if exists; otherwise null
future	string	XRP-PERP	
id	number	50001	
market	string	XRP-PERP	
orderId	number	null	[DEPRECATED] order id of the most recent trigger, if exixsts; otherwise null
orderPrice	number	0.50	Limit price for stop limit and take profit limit orders; otherwise null
reduceOnly	boolean	false	
side	string	buy	
size	number	31431.0	
status	string	open	Always `open` for this endpoint
trailStart	number	null	trigger price - trail value; only for trailing stop orders
trailValue	number	null	only for trailing stop orders
triggerPrice	number	0.49	market price at which this order will trigger
triggeredAt	string	null	time of first trigger. null if never triggered
type	string	stop	Values are `stop`, `trailing_stop`, and `take_profit`

Name	Type	Value	Description
orderType	string	market	Values are `market`, `limit`
filledSize	number	0	
avgFillPrice	number	null	
retryUntilFilled	boolean	false	Whether or not to keep re-triggering until filled

GET TRIGGER ORDER TRIGGERS

Request

```
GET /conditional_orders/{conditional_order_id}/triggers
```

Response

```
{
  "success": true,
  "result": [
    {
      "error": null,
      "filledSize": 4.0,
      "orderSize": 10.0,
      "orderId": 38066650,
      "time": "2020-01-19T09:23:36.570904+00:00"
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
time	string	2019-03-05T09:56:55.728933+00:00	
orderSize	number	31431.0	null if order failed to place
filledSize	number	0	null if order failed to place
orderId	number	null if order failed to place	
error	string	null	reason for order failing to be placed, null if successful

GET TRIGGER ORDER HISTORY

Request

```
GET /conditional_orders/history?market={market}
```

Response

```
{
  "success": true,
  "result": [
    {
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "error": null,
      "future": "XRP-PERP",
      "id": 50000,
```

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```
      "market": "XRP-PERP",
      "orderId": 2800000,
      "orderPrice": null,
      "reduceOnly": false,
      "side": "buy",
      "size": 31431,
      "status": "triggered",
      "trailStart": null,
      "trailValue": null,
      "triggerPrice": 0.37,
      "triggeredAt": 2019-03-06T03:26:53.268723+00:00,
      "type": "stop",
      "orderType": "market",
      "filledSize": 31431,
      "avgFillPrice": 0.3701,
      "orderStatus": "closed",
      "orderType": "market",
      "filledSize": 0,
      "avgFillPrice": null,
      "retryUntilFilled": false,
    },
  ],
  "hasMoreData": false,
}
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
market	string	BTC-0329	optional; market to limit orders
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559881511	optional; only fetch orders created before this time
side	string	buy	optional; valid values are `buy` and `sell`.
type	string	trailing_stop	optional; valid values are `stop`, `trailing_stop`, and `take_profit`.
orderType	string	limit	optional; valid values are `market` and `limit`.

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T09:56:55.728933+00:00	
error	string	null	[DEPRECATED] error that occurred on most recent trigger, if exists; otherwise null
future	string	XRP-PERP	
id	number	50001	
market	string	XRP-PERP	
orderId	number	null	[DEPRECATED] order ID if this order has triggered; otherwise null
orderPrice	number	0.50	Limit price for stop limit and take profit limit orders; otherwise null
reduceOnly	boolean	false	
side	string	buy	

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Name	Type	Value	Description
size	number	31431.0	
status	string	open	Values are `open`, `cancelled`, and `triggered`
trailStart	number	null	trigger price - trail value; only for trailing stop orders
trailValue	number	null	only for trailing stop orders
triggerPrice	number	0.49	market price at which this order will trigger
triggeredAt	string	null	time of first trigger. null if never triggered
type	string	stop	Values are `stop`, `trailing_stop`, and `take_profit`
orderType	string	market	Values are `market` and `limit`
filledSize	number	31431	
avgFillPrice	number	0.3701	
orderStatus	string	closed	[DEPRECATED] status of most recent trigger's order: `new`, `open` or `closed`
orderType	string	market	Values are `market`, `limit`
filledSize	number	0	
avgFillPrice	number	null	
retryUntilFilled	boolean	false	Whether or not to keep re-triggering until filled

GET TWAP ORDERS

Request

```
GET /twap_orders?market={market}
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 50001,
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "status": "running",
      "market": "XRP-PERP",
      "side": "buy",
      "size": 1.003,
      "type": "market",
      "durationSeconds": 600,
      "maxSpread": 0.01,
      "maxIndividualOrderSize": 5.0,
      "maxDistanceThroughBook": 0.1,
      "priceBound": 5500,
      "randomizeSize": false,
      "filledSize": 0.5,
      "avgFillPrice": 5000,
    }
  ]
}
```

Requires authentication.

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Supports pagination

Request parameters

Name	Type	Value	Description
market	string	BTC/USD	optional; When provided, only TWAP orders for this market are returned.

Response format

Name	Type	Value	Description
id	number	50001	
createdAt	string	2019-03-05T09:56:55.728933+00:00	
status	string	open	If an order was successfully placed, status will be `running`. Possible values: `running`, `expired`, `cancelled`.
market	string	BTC/USD	Optional; Ticker of the market.
future	string	XRP-PERP	Optional; Ticker of the future.
side	string	buy	One of `buy` or `sell`
size	number	31431.0	
type	string	market	One of `market` or `limit`. Determines the type of order that each TWAP execution sends.
durationSeconds	number	600	In seconds, the duration this TWAP order will run for.
randomizeSize	boolean	false	If true, each individual order for this TWAP will be sent with size bound by some [lower, upper] bound.
maxSpread	number	0.01	Optional; When specified, an individual order for this TWAP will not be sent if market spread is higher than maxSpread. For %1 spread, this value will be 0.01.
maxIndividualOrderSize	number	0.01	Optional; When specified, an individual order for this TWAP will be capped at maxIndividualOrderSize
maxDistanceThroughBook	number	0.01	Optional; Max allowed distance of order price from market price. For 1% distance, this field will be 0.01.
priceBound	number	5500	Optional; When specified, an individual order for this TWAP will not be sent if market price is above (for buys) or below (for sells) this price bound.
filledSize	number	0	Total filled size of this TWAP. This value is updated throughout a TWAP's execution.
avgFillPrice	number	null	Average price paid for the filled size.

GET TWAP ORDER EXECUTIONS

Request

```
GET /twap_orders/{twap_order_id}/executions
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 50001,
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "status": "sent",
      "failureReason": null,
      "size": 0.5,
      "filledSize": 0.5,
      "avgFillPrice": 5000,
      "orderStatus": "closed",
      "orderType": "limit",
    }
  ]
}
```

Requires authentication.

Supports pagination

Request parameters

Response format

Name	Type	Value	Description
id	number	50001	
createdAt	string	2019-03-05T09:56:55.728933+00:00	
status	string	sent	See table below for possible values.
failureReason	string	'insufficient_balance'	This field may be populated if status is not 'sent' and there is additional information about this error. See table below for possible values.
size	number	0.5	Size of the order that was placed as part of this execution
filledSize	number	0.5	Total filled size for this individual order. Total of all filledSize's for all individual orders within a TWAP is equal to the total filled size of the TWAP.
avgFillPrice	number	5000	Average price paid for the filled size of this individual order.
orderStatus	string	'closed'	Status of the order that was sent as part of this execution. One of `new`, `open`, `closed`
orderType	string	'market'	Order type of the order that was sent as part of this execution. One of `market`, `limit`.

Status format

Status	Description
`sent`	Order was successfully sent.
`skipped_spread_higher_than_allowed`	This TWAP has a non-null `maxSpread` specified and this order was not sent because max spread was exceeded.
`skipped_remaining_size_too_small`	Remaining size for this TWAP is smaller than the minimum order size allowed for the market. This TWAP will stop execution after encountering this issue.
`skipped_run_size_too_small`	Order size for this individual run is smaller than the minimum order sized allowed for this market.
`skipped_place_order_failed`	Placing this individual order failed. The failureReason field will be populated if there is additional information available (e.g. not enough balances).

Status	Description
`skipped_last_order_not_closed`	The most recent order placed for this TWAP is still open.
`skipped_price_bound_exceeded`	This TWAP has a non-null `priceBound` specified, and the market price exceeded that price bound at the time this order was attempted to be executed.

Failure reason format

Enum	Description
`generic`	Generic failure. No additional information is available.
`insufficient_margin`	User did not have enough margin to send an order as part of this execution
`insufficient_balance`	User did not have enough balance to send an order as part of this execution.
`invalid_reduce_only_order`	This execution attempted to place a reduce-only order that would have been invalid (e.g. would have opened position).
`post_only_market`	This market is in post-only mode.
`account_being_liquidated`	The account was being liquidated at the time of TWAP execution.
`invalid_size`	Size for this execution was invalid.

PLACE ORDER

Request

```
POST /orders
```

```
{
  "market": "XRP-PERP",
  "side": "sell",
  "price": 0.306525,
  "type": "limit",
  "size": 31431.0,
  "reduceOnly": false,
  "ioc": false,
  "postOnly": false,
  "clientId": null
}
```

Response

```
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T09:56:55.728933+00:00",
    "filledSize": 0,
    "future": "XRP-PERP",
    "id": 9596912,
    "market": "XRP-PERP",
    "price": 0.306525,
    "remainingSize": 31431,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "limit",
    "reduceOnly": false,
    "ioc": false,
    "postOnly": false,
    "clientId": null,
```

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```
    }
  }
```

Requires authentication.

Payload format

Name	Type	Value	Description
market	string	XRP-PERP	e.g. "BTC/USD" for spot, "XRP-PERP" for futures
side	string	sell	"buy" or "sell"
price	number	0.306525	Send null for market orders.
type	string	limit	"limit" or "market"
size	number	31431.0	
reduceOnly	boolean	false	optional; default is false
ioc	boolean	false	optional; default is false
postOnly	boolean	false	optional; default is false
clientId	string	null	optional; client order id
rejectOnPriceBand	boolean	false	optional; if the order should be rejected if its price would instead be adjusted due to price bands
rejectAfterTs	number	null	optional; if the order would be put into the placement queue after this timestamp, instead reject it. If it would be placed on the orderbook after the timestamp, then immediately close it instead (as if it were, for instance, a post-only order that would have taken)

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T09:56:55.728933+00:00	
filledSize	number	0.0	
future	string	XRP-PERP	
id	number	9596912	
market	string	XRP-PERP	
price	number	0.306525	
remainingSize	number	31431.0	
side	string	sell	
size	number	31431.0	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
type	string	limit	
reduceOnly	boolean	false	

Name	Type	Value	Description
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	optional; client order id, if supplied	

PLACE TRIGGER ORDER

Trigger orders include stop, trailing stop, and take profit.

Request

```
POST /conditional_orders
```

- Stop

```json
{
  "market": "XRP-PERP",
  "side": "sell",
  "triggerPrice": 0.306525,
  "size": 31431.0,
  "type": "stop",
  "reduceOnly": false,
}
```

- Trailing stop

```json
{
  "market": "XRP-PERP",
  "side": "sell",
  "trailValue": -0.05,
  "size": 31431.0,
  "type": "trailingStop",
  "reduceOnly": false,
}
```

- Take profit

```json
{
  "market": "XRP-PERP",
  "side": "buy",
  "triggerPrice": 0.367895,
  "size": 31431.0,
  "type": "takeProfit",
  "reduceOnly": false,
}
```

Response

```json
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T09:56:55.728933+00:00",
    "future": "XRP-PERP",
    "id": 9596912,
    "market": "XRP-PERP",
    "triggerPrice": 0.306525,
    "orderId": null,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "stop",
    "orderPrice": null,
```

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```
        "error": null,
        "triggeredAt": null,
        "reduceOnly": false,
        "orderType": "market",
        "retryUntilFilled": false,
      }
    }
```

Requires authentication.

Payload format

Name	Type	Value	Description
market	string	XRP-PERP	
side	string	sell	"buy" or "sell"
size	number	31431.0	
type	string	stop	"stop", "trailingStop", "takeProfit"; default is stop
reduceOnly	boolean	false	optional; default is false
retryUntilFilled	boolean	false	Whether or not to keep re-triggering until filled. optional, default true for market orders

Additional parameters for stop loss orders

Name	Type	Value	Description
triggerPrice	number	0.306525	
orderPrice	number	0.3063	optional; order type is limit if this is specified; otherwise market

Additional parameters for trailing stop orders

Name	Type	Value	Description
trailValue	number	-0.05	negative for "sell"; positive for "buy"

Additional parameters for take profit orders

Name	Type	Value	Description
triggerPrice	number	0.306525	
orderPrice	number	0.3067	optional; order type is limit if this is specified; otherwise market

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T09:56:55.728933+00:00	
future	string	XRP-PERP	
id	number	9596912	
market	string	XRP-PERP	
triggerPrice	number	0.306525	

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Name	Type	Value	Description
orderId	number	123123	[DEPRECATED] ID of the order sent on the most recent trigger, if exists
side	string	sell	
size	number	31431.0	
status	string	Values are `open`, `cancelled`, and `triggered`	
type	string	stop	
orderPrice	number	null	price of the order sent when this stop loss triggered
error	string	null	[DEPRECATED] error message for unsuccessful order placement when this stop loss triggered
triggeredAt	string	null	time at which this stop loss order triggered
reduceOnly	boolean	false	
orderType	string	market	Values are `market`, `limit`
retryUntilFilled	boolean	false	Whether or not to keep re-triggering until filled

PLACE TWAP ORDER

Request

```
POST /twap_orders
```

```
{
  "market": "XRP-PERP",
  "side": "buy",
  "size": 1.003,
  "type": "market",
  "durationSeconds": 600,
  "maxSpread": 0.01,
  "maxIndividualOrderSize": 5.0,
  "maxDistanceThroughBook": 0.1,
  "priceBound": 5500,
  "randomizeSize": false,
  "clientId": "your_client_order_id"
}
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 50001,
      "createdAt": "2019-03-05T09:56:55.728933+00:00",
      "status": "running",
      "market": "XRP-PERP",
      "type": "market",
      "side": "buy",
      "size": 1.003,
      "durationSeconds": 600,
      "maxSpread": 0.01,
      "maxIndividualOrderSize": 5.0,
      "maxDistanceThroughBook": 0.1,
      "priceBound": 5500,
      "randomizeSize": false,
```

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```
      "filledSize": 0.5,
      "avgFillPrice": 5000,
    }
  ]
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
market	string	BTC/USD	Ticker of the market.
side	string	buy	One of `buy` or `sell`
size	number	31431.0	
type	string	market	One of `market` or `limit`. Determines the type of order that each TWAP execution sends.
durationSeconds	number	600	In seconds, the duration this TWAP order will run for.
randomizeSize	boolean	false	If true, each individual order for this TWAP will be sent with size bound by some [lower, upper] bound.
maxSpread	number	0.01	Optional; When specified, an individual order for this TWAP will not be sent if market spread is higher than maxSpread. For %1 spread, this value will be 0.01.
maxIndividualOrderSize	number	0.01	Optional; When specified, an individual order for this TWAP will be capped at maxIndividualOrderSize
maxDistanceThroughBook	number	0.01	Optional; Max allowed distance of order price from market price. For 1% distance, this field will be 0.01.
priceBound	number	5500	Optional; When specified, an individual order for this TWAP will not be sent if market price is above (for buys) or below (for sells) this price bound.

Response format

Name	Type	Value	Description
id	number	50001	
createdAt	string	2019-03-05T09:56:55.728933+00:00	
status	string	open	If an order was successfully placed, status will be `running`. Possible values: `running`, `expired`, `cancelled`.
market	string	BTC/USD	Optional; Ticker of the market.
future	string	XRP-PERP	Optional; Ticker of the future.
side	string	buy	One of `buy` or `sell`
size	number	31431.0	
type	string	market	One of `market` or `limit`. Determines the type of order that each TWAP execution sends.
durationSeconds	number	600	In seconds, the duration this TWAP order will run for.

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Name	Type	Value	Description
randomizeSize	boolean	false	If true, each individual order for this TWAP will be sent with size bound by some [lower, upper] bound.
maxSpread	number	0.01	Optional; When specified, an individual order for this TWAP will not be sent if market spread is higher than maxSpread. For %1 spread, this value will be 0.01.
maxIndividualOrderSize	number	0.01	Optional; When specified, an individual order for this TWAP will be capped at maxIndividualOrderSize
maxDistanceThroughBook	number	0.01	Optional; Max allowed distance of order price from market price. For 1% distance, this field will be 0.01.
priceBound	number	5500	Optional; When specified, an individual order for this TWAP will not be sent if market price is above (for buys) or below (for sells) this price bound.
filledSize	number	0	Total filled size of this TWAP. This value is updated throughout the execution of the TWAP.
avgFillPrice	number	null	Average price paid for the filled size.

MODIFY ORDER

Request

```
POST /orders/{order_id}/modify
```

```
{
  "size": 31431,
  "price": 0.326525,
}
```

Response

```
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T11:56:55.728933+00:00",
    "filledSize": 0,
    "future": "XRP-PERP",
    "id": 9596932,
    "market": "XRP-PERP",
    "price": 0.326525,
    "remainingSize": 31431,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "limit",
    "reduceOnly": false,
    "ioc": false,
    "postOnly": false,
    "clientId": null,
  }
}
```

Please note that the order's queue priority will be reset, and the order ID of the modified order will be different from that of the original order. Also note: this is implemented as cancelling and replacing your order. There's a chance that the order meant to be cancelled gets filled and its replacement still gets placed.

Requires authentication.

Payload format

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Name	Type	Value	Description
price	number	0.306525	optional; either `price` or `size` must be specified
size	number	31431.0	optional; either `price` or `size` must be specified
clientId	string	order1	optional; client ID for the modified order

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T11:56:55.728933+00:00	
filledSize	number	0.0	
future	string	XRP-PERP	
id	number	9596932	
market	string	XRP-PERP	
price	number	0.326525	
remainingSize	number	31431.0	
side	string	sell	
size	number	31431.0	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
type	string	limit	
reduceOnly	boolean	false	
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	optional; client order id, if supplied	

MODIFY ORDER BY CLIENT ID

Request

```
POST /orders/by_client_id/{client_order_id}/modify
```

```
{
  "size": 31431,
  "price": 0.326525,
}
```

Response

```
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T11:56:55.728933+00:00",
    "filledSize": 0,
    "future": "XRP-PERP",
    "id": 9596932,
```

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```
        "market": "XRP-PERP",
        "price": 0.326525,
        "remainingSize": 31431,
        "side": "sell",
        "size": 31431,
        "status": "open",
        "type": "limit",
        "reduceOnly": false,
        "ioc": false,
        "postOnly": false,
        "clientId": null,
    }
  }
```

Please note that the order's queue priority will be reset, and the order ID of the modified order will be different from that of the original order. Also note: this is implemented as cancelling and replacing your order. There's a chance that the order meant to be cancelled gets filled and its replacement still gets placed.

Requires authentication.

Payload format

Name	Type	Value	Description
price	number	0.306525	optional; either `price` or `size` must be specified
size	number	31431.0	optional; either `price` or `size` must be specified
clientId	string	order1	optional; client ID for the modified order

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T11:56:55.728933+00:00	
filledSize	number	0.0	
future	string	XRP-PERP	
id	number	9596932	
market	string	XRP-PERP	
price	number	0.326525	
remainingSize	number	31431.0	
side	string	sell	
size	number	31431.0	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
type	string	limit	
reduceOnly	boolean	false	
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	optional; client order id, if supplied	

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MODIFY TRIGGER ORDER

Trigger orders include stop, trailing stop, and take profit.

    Request

```
POST /conditional_orders/{order_id}/modify
```

- Stop

```
{
  "triggerPrice": 0.306225,
  "size": 31431.0,
}
```

- Trailing stop

```
{
  "trailValue": -0.06,
  "size": 31432.0,
}
```

- Take profit

```
{
  "triggerPrice": 0.367885,
  "size": 31433.0,

}
```

    Response

```
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T09:56:55.728933+00:00",
    "future": "XRP-PERP",
    "id": 9596912,
    "market": "XRP-PERP",
    "triggerPrice": 0.306225,
    "orderId": null,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "stop",
    "orderPrice": null,
    "error": null,
    "triggeredAt": null,
    "reduceOnly": false,
    "orderType": "market",
    "filledSize": 0,
    "avgFillPrice": null,
    "retryUntilFilled": false
  }
}
```

Requires authentication.

Payload format

Please note that the order ID of the modified order will be different from that of the original order.

Parameters for stop loss orders

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Name	Type	Value	Description
size	number	31431.0	
triggerPrice	number	0.306525	
orderPrice	number	0.3063	only for stop limit orders

Parameters for trailing stop orders

Name	Type	Value	Description
size	number	31431.0	
trailValue	number	-0.05	negative for `sell` orders; positive for `buy` orders

Parameters for take profit orders

Name	Type	Value	Description
size	number	31431.0	
triggerPrice	number	0.306525	
orderPrice	number	0.3067	only for take profit limit orders

Response format

Name	Type	Value	Description
createdAt	string	2019-03-05T12:56:55.728933+00:00	
future	string	XRP-PERP	
id	number	9596912	
market	string	XRP-PERP	
triggerPrice	number	0.306525	
orderId	number	123123	[DEPRECATED] ID of the order sent on the most recent trigger, if exists
side	string	sell	
size	number	31431.0	
status	string	Values are `open`, `cancelled`, and `triggered`	
type	string	stop	
orderPrice	number	null	price of the order sent when this stop loss triggered
error	string	null	[DEPRECATED] error message for unsuccessful order placement of the most recent trigger, if exists
triggeredAt	string	null	time at which this stop loss first triggered
reduceOnly	boolean	false	
orderType	string	market	Values are `market`, `limit`

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Name	Type	Value	Description
retryUntilFilled	boolean	false	Whether or not to keep re-triggering until filled

GET ORDER STATUS

Request

```
GET /orders/{order_id}
```

Response

```json
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T09:56:55.728933+00:00",
    "filledSize": 10,
    "future": "XRP-PERP",
    "id": 9596912,
    "market": "XRP-PERP",
    "price": 0.306525,
    "avgFillPrice": 0.306526,
    "remainingSize": 31421,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "limit",
    "reduceOnly": false,
    "ioc": false,
    "postOnly": false,
    "clientId": null,
    "liquidation": False
  }
}
```

Requires authentication.

Response format

Name	Type	Value	Description
id	number	9596912	
market	string	XRP-PERP	
type	string	limit	
side	string	sell	
price	number	0.306525	
size	number	31431.0	
filledSize	number	10.0	
remainingSize	number	31421.0	
avgFillPrice	number	0.306526	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	
createdAt	string	2019-03-05T09:56:55.728933+00:00	
reduceOnly	boolean	false	

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Name	Type	Value	Description
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	client order id	

GET ORDER STATUS BY CLIENT ID

Request

```
GET /orders/by_client_id/{client_order_id}
```

Response

```
{
  "success": true,
  "result": {
    "createdAt": "2019-03-05T09:56:55.728933+00:00",
    "filledSize": 10,
    "future": "XRP-PERP",
    "id": 9596912,
    "market": "XRP-PERP",
    "price": 0.306525,
    "avgFillPrice": 0.306526,
    "remainingSize": 31421,
    "side": "sell",
    "size": 31431,
    "status": "open",
    "type": "limit",
    "reduceOnly": false,
    "ioc": false,
    "postOnly": false,
    "clientId": "your_client_order_id"
  }
}
```

Requires authentication.

Response format

Name	Type	Value	Description
id	number	9596912	
market	string	XRP-PERP	
type	string	limit	
side	string	sell	
price	number	0.306525	
size	number	31431.0	
filledSize	number	10.0	
remainingSize	number	31421.0	
avgFillPrice	number	0.306526	
status	string	`new` (accepted but not processed yet), `open`, or `closed` (filled or cancelled)	

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Name	Type	Value	Description
createdAt	string	2019-03-05T09:56:55.728933+00:00	
reduceOnly	boolean	false	
ioc	boolean	false	
postOnly	boolean	false	
clientId	string	client order id	

CANCEL ORDER

Request

```
DELETE /orders/{order_id}
```

Response

```
{
  "success": true,
  "result": "Order queued for cancelation"
}
```

Requires authentication.

CANCEL TWAP ORDER

Request

```
DELETE /twap_orders/{twap_order_id}
```

Response

```
{
  "success": true,
  "result": "Order cancelled"
}
```

Requires authentication.

CANCEL ORDER BY CLIENT ID

Request

```
DELETE /orders/by_client_id/{client_order_id}
```

Response

```
{
  "success": true,
  "result": "Order queued for cancellation"
}
```

Requires authentication.

CANCEL OPEN TRIGGER ORDER

Request

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```
DELETE /conditional_orders/{id}
```

Response

```
{
  "success": true,
  "result": "Order cancelled"
}
```

Requires authentication.

CANCEL ALL ORDERS

This will also cancel conditional orders (stop loss and trailing stop orders).

Request

```
DELETE /orders
```

```
{
  "market": "BTC-PERP",
}
```

Response

```
{
  "success": true,
  "result": "Orders queued for cancelation"
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
market	string	USDTBEAR	optional; restrict to cancelling orders only on this market
side	string	buy	optional; restrict to cancelling orders only on this side
conditionalOrdersOnly	boolean	false	optional; restrict to cancelling conditional orders only
limitOrdersOnly	boolean	false	optional; restrict to cancelling existing limit orders (non-conditional orders) only

Fills

Request

```
GET /fills?market={market}
```

Response

```
{
  "success": true,
  "result": [
    {
```

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```
            "fee": 20.1374935,
            "feeCurrency": "USD",
            "feeRate": 0.0005,
            "future": "EOS-0329",
            "id": 11215,
            "liquidity": "taker",
            "market": "EOS-0329",
            "baseCurrency": null,
            "quoteCurrency": null,
            "orderId": 8436981,
            "tradeId": 1013912,
            "price": 4.201,
            "side": "buy",
            "size": 9587,
            "time": "2019-03-27T19:15:10.204619+00:00",
            "type": "order"
        }
    ]
}
```

Requires authentication.

Supports pagination

Please note that fills generated by Converts will show up as `'type': 'otc'`

Request parameters

Name	Type	Value	Description
market	string	BTC-0329	optional; market to limit fills
start_time	number	1564146934	optional; minimum time of fills to return, in Unix time (seconds since 1970-01-01)
end_time	number	1564233334	optional; maximum time of fills to return, in Unix time (seconds since 1970-01-01)
order	string	null	optional; default is descending, supply 'asc' to receive fills in ascending order of time
orderId	number	50129784137	optional; fetch fills for a specific order

Response format

Name	Type	Value	Description
fee	number	20.1374935	
feeCurrency	string	USD	
feeRate	number	0.0005	
future	string	EOS-0329	
id	number	11215	fill id
liquidity	string	taker	"taker" or "maker"
market	string	EOS-0329	
baseCurrency	string	BTC	spot markets only
quoteCurrency	string	USD	spot markets only
orderId	number	8436981	
tradeId	number	1013912	null for trades before 2019-02-19 10:00:00

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Name	Type	Value	Description
price	number	4.201	
side	string	buy	
size	number	9587.0	
time	string	2019-03-27T19:15:10.204619+00:00	
type	string	order	

Funding Payments

Requires authentication.

Supports pagination

Request

```
GET /funding_payments
```

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional
future	string	BTC-PERP	optional

Response

```json
{
  "success": true,
  "result": [
    {
      "future": "ETH-PERP",
      "id": 33830,
      "payment": 0.0441342,
      "time": "2019-05-15T18:00:00+00:00",
      "rate": 0.0001
    }
  ]
}
```

Response format

Name	Type	Value	Description
future	string	ETH-PERP	
id	number	33830	
payment	number	0.0441342	
time	string	2019-05-15T18:00:00+00:00	

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Leveraged Tokens

LIST LEVERAGED TOKENS

Request

```
GET /lt/tokens
```

Response

```
{
  "success": true,
  "result": [
    {
      "name": "HEDGE",
      "description": "1X Short Bitcoin Token",
      "underlying": "BTC-PERP",
      "leverage": -1.0,
      "outstanding": 22155.41968804,
      "pricePerShare": 110.87560713849138,
      "positionPerShare": -0.001966859604267557,
      "positionsPerShare": {"BTC-PERP": -0.001966859604267557},
      "basket": {"BTC-PERP": -0.001966859604267557, "USD": 221.74748303105358},
      "targetComponents": ["BTC-PERP"],
      "underlyingMark": 56370.0,
      "totalNav": 2456495.60931952,
      "totalCollateral": 2465646.6953195203,
      "contractAddress": "0x1FA3bc860bF823d792f04F662f3AA3a500a68814",
      "currentLeverage": -0.9999663474588733,
      "change1h": -0.008438973233561787,
      "change24h": 0.014631456489264717,
      "changeBod": -0.0017092321513513995
    }
  ]
}
```

Response format

Name	Type	Value	Description
name	string	HEDGE	name of the token
description	string	1x Short Bitcoin Token	
underlying	string	BTC-PERP	name of the underlying futures contract used by this token
leverage	number	-1.0	Target leverage
outstanding	number	22155.41968804	number of outstanding tokens
pricePerShare	number	110.87560713849138	totalNav divided by outstanding
positionsPerShare	dict	`{"BTC-PERP": -0.001966859604267557}`	Futures positions per share: one element for each item in targetComponents
basket	dict	`{"BTC-PERP": -0.001966859604267557, "USD": 221.74748303105358}`	Holdings per share
targetComponents	list	`["BTC-PERP"]`	Futures to be included in the basket of the leverage token. For BVOL and IBVOL futures, this contains multiple entries
totalNav	number	2456495.60931952	Total value of the leveraged token holdings (basket holdings marked to market times outstanding)

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Name	Type	Value	Description
totalCollateral	number	2465646.6953195203	Total collateral in the leveraged token account
currentLeverage	number	-0.999963474588733	Current leverage
positionPerShare	number	-0.001966859604267557	underlying futures position held by each token
underlyingMark	number	56370.0	current mark price of the underlying future
contractAddress	string	0x1FA3bc860bF823d792f04F662f3AA3a500a68814	ERC20 smart contract address of the token
change1h	number	-0.008438973233561787	change in the price of the token over the past hour
change24h	number	0.014631456489264717	change in the price of the token over the past day
changeBod	number	-0.0017092321513513995	Change in price since 00:00 UTC

GET TOKEN INFO

Request

```
GET /lt/{token_name}
```

Response

```
{
  "success": true,
  "result": [
    {
      "name": "HEDGE",
      "description": "1X Short Bitcoin Token",
      "underlying": "BTC-PERP",
      "leverage": -1.0,
      "outstanding": 22155.41968804,
      "pricePerShare": 110.87560713849138,
      "positionPerShare": -0.001966859604267557,
      "positionsPerShare": {"BTC-PERP": -0.001966859604267557},
      "basket": {"BTC-PERP": -0.001966859604267557, "USD": 221.74748303105358},
      "targetComponents": ["BTC-PERP"],
      "underlyingMark": 56370.0,
      "totalNav": 2456495.60931952,
      "totalCollateral": 2465646.6953195203,
      "contractAddress": "0x1FA3bc860bF823d792f04F662f3AA3a500a68814",
      "currentLeverage": -0.9999663474588733,
      "change1h": -0.008438973233561787,
      "change24h": 0.014631456489264717,
      "changeBod": -0.0017092321513513995
    }
  ]
}
```

Parameters

Name	Type	Value	Description
token_name	string	HEDGE	Required. Name of the token.

GET LEVERAGED TOKEN BALANCES

Request

```
GET /lt/balances
```

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Response

```json
{
  "success": true,
  "result": [
    {
      "token": "HEDGE",
      "balance": 8.8
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
token	string	HEDGE	
balance	number	8.8	

LIST LEVERAGED TOKEN CREATION REQUESTS

Request

```
GET /lt/creations
```

Response

```json
{
  "success": true,
  "result": [
    {
      "id": 123,
      "token": "HEDGE",
      "requestedSize": 10,
      "pending": false,
      "createdSize": 10,
      "price": 1234,
      "cost": 12340,
      "fee": 12.34,
      "requestedAt": "2019-03-05T09:56:55.728933+00:00",
      "fulfilledAt": "2019-03-05T09:56:55.728933+00:00"
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
id	number	123	
token	string	HEDGE	name of the token
requestedSize	number	10	number of tokens originally requested
pending	boolean	false	
createdSize	number	10	number of tokens created; may be less than the requested number

FTX Documentation

Name	Type	Value	Description
price	number	1234	price at which the creation request was fulfilled
cost	number	12340	cost of creating the tokens, not including fees
fee	number	12.34	fee for creating the tokens
requestedAt	string	2019-03-05T09:56:55.728933+00:00	time the request was submitted
fulfilledAt	string	2019-03-05T09:56:55.728933+00:00	time the request was processed

REQUEST LEVERAGED TOKEN CREATION

Request

```
POST /lt/{token_name}/create
```

```
{
  "size": 31431.0
}
```

Response

```json
{
  "success": true,
  "result": {
    "id": 123,
    "token": "HEDGE",
    "requestedSize": 10,
    "cost": 12340,
    "pending": true,
    "requestedAt": "2019-03-05T09:56:55.728933+00:00"
  }
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
token_name	string	HEDGE	required; name of the token

Payload format

Name	Type	Value	Description
size	number	31431.0	number of tokens to create

Response format

Name	Type	Value	Description
id	number	123	
token	string	HEDGE	name of the token
requestedSize	number	10	number of tokens requested
cost	number	12340	amount of collateral deducted for the creation request

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Name	Type	Value	Description
pending	boolean	true	
requestedAt	string	2019-03-05T09:56:55.728933+00:00	time the request was submitted

LIST LEVERAGED TOKEN REDEMPTION REQUESTS

Request

```
GET /lt/redemptions
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 123,
      "token": "HEDGE",
      "size": 10,
      "pending": false,
      "price": 1234,
      "proceeds": 12340,
      "fee": 12.34,
      "requestedAt": "2019-03-05T09:56:55.728933+00:00",
      "fulfilledAt": "2019-03-05T09:56:55.728933+00:00"
    }
  ]
}
```

Requires authentication.

Supports pagination

Response format

Name	Type	Value	Description
id	number	123	
token	string	HEDGE	name of the token
size	number	10	number of tokens redeemed
pending	boolean	false	
price	number	1234	price at which the redemption request was fulfilled
proceeds	number	12340	proceeds from the redemption, before fees
fee	number	12.34	fee for redeeming the tokens
requestedAt	string	2019-03-05T09:56:55.728933+00:00	time the request was submitted
fulfilledAt	string	2019-03-05T09:56:55.728933+00:00	time the request was processed

REQUEST LEVERAGED TOKEN REDEMPTION

Request

```
POST /lt/{token_name}/redeem
```

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```
{
  "size": 31431.0
}
```

Response

```
{
  "success": true,
  "result": {
    "id": 123,
    "token": "HEDGE",
    "size": 10,
    "projectedProceeds": 12340,
    "pending": true,
    "requestedAt": "2019-03-05T09:56:55.728933+00:00"
  }
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
token_name	string	HEDGE	required; name of the token

Payload format

Name	Type	Value	Description
size	number	31431.0	number of tokens to create

Response format

Name	Type	Value	Description
id	number	123	
token	string	HEDGE	- name of the token
size	number	10	- number of tokens requsted to be redeemed
projectedProceeds	number	12340	- estimated proceeds from the redemption
pending	boolean	true	
requestedAt	string	2019-03-05T09:56:55.728933+00:00	- time the request was submitted

REQUEST ETF REBALANCE INFO

Request

```
GET /etfs/rebalance_info
```

Provides information about the most recent rebalance of each ETF.

Response

```
{
  "BNBBEAR": {
    "orderSizeList": [
      "751.80000000",
```

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```
              "751.80000000",
              "751.80000000",
              "1.10000000"
          ],
          "side": "buy",
          "time": "2021-05-03 13:03:48.585349"
      },
      "DOGEBEAR2021": {
          "orderSizeList": [
              "440614.00000000"
          ],
          "side": "buy",
          "time": "2021-05-03 13:31:44.577947"
      },
      "DOGEBEAR": {
          "orderSizeList": [
              "118599.00000000"
          ],
          "side": "buy",
          "time": "2021-05-03 13:31:45.746563"
      }
  }
```

Response format

Name	Type	Value	Description
[key]	string	BNBBEAR	ticker of the ETF
orderSizeList	list of numbers	["751.80000000", "751.80000000", "751.80000000", "1.10000000"]	List of order sizes in the rebalance
side	string	buy	"buy" or "sell" depending on whether the rebalance involves buying or selling
time	string	2021-05-03 13:31:45.746563	time of the rebalance

Options

LIST QUOTE REQUESTS

Request

```
GET /options/requests
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 512,
      "option": {
        "underlying": "BTC",
        "type": "call",
        "strike": 7800,
        "expiry": "2020-01-08T03:00:00+00:00",
      },
      "side": "buy",
      "size": 1.2,
      "time": "2020-01-07T22:35:54.626023+00:00",
      "requestExpiry": "2020-01-08T22:35:54.626023+00:00",
      "status": "open",
    },
```

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```
    ],
  }
```

Response format

Name	Type	Value	Description
id	number	512	
option	dict		option object; see below
size	number	1.2	
side	string	buy	
time	string	2020-01-07T22:35:54.626023+00:00	when the request was placed
status	string	open	
requestExpiry	string	2020-01-08T22:35:54.626023+00:00	when the request expires
limitPrice	number	10.2	optional; omitted when the request has no limit price or it is hidden

Note that option objects have the following format:

Name	Type	Value	Description
underlying	string	BTC	
type	string	call	"call" or "put"
strike	number	7800	
expiry	string	2020-01-08T03:00:00+00:00	

YOUR QUOTE REQUESTS

Requires authentication.

Request

```
GET /options/my_requests
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 512,
      "option": {
        "underlying": "BTC",
        "type": "call",
        "strike": 7800,
        "expiry": "2020-01-08T03:00:00+00:00",
      },
      "side": "buy",
      "size": 1.2,
      "time": "2020-01-07T22:35:54.626023+00:00",
      "requestExpiry": "2020-01-08T22:35:54.626023+00:00",
      "status": "open",
      "hideLimitPrice": true,
      "limitPrice": 1.2,
      "quotes": [
        {
```

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```
        "collateral": 8762.71757981,
        "id": 1029,
        "price": 1.0,
        "quoteExpiry": null,
        "status": "open",
        "time": "2020-01-07T22:49:31.367379+00:00".
      },
    ],
  },
 ],
}
```

Response format

Name	Type	Value	Description
id	number	512	
option	dict		option object; see List Quote Requests section
side	string	buy	
size	number	1.2	
time	string	2020-01-07T22:35:54.626023+00:00	when the request was placed
status	string	open	
requestExpiry	string	2020-01-08T22:35:54.626023+00:00	when the request expires
quotes	array		list of quotes for your quote request; see below
hideLimitPrice	bool	true	whether or not to hide your limit price if it exists
limitPrice	number	1.2	optional; omitted if your request does not have a limit price

Note that quote objects have the following format:

Name	Type	Value	Description
id	number	1029	
status	string	open	
collateral	number	8762.71757981	collateral locked by the quote
price	number	1.0	
quoteExpiry	string	null	optional
time	string	2020-01-07T22:49:31.367379+00:00	when the quote was created

CREATE QUOTE REQUEST

Request

Requires authentication.

```
POST /options/requests
```

```
{
 "underlying": "BTC",
 "type": "call",
```

```
    "strike": 7800,
    "expiry": 1578625200,
    "side": "buy",
    "size": 5,
  }
```

Payload format

Name	Type	Value	Description
underlying	string	BTC	
type	string	call	"call" or "put"
strike	number	7800	
expiry	number	1578625200	unix timestamp of option expiry. Must be in the future and at 03:00 UTC.
side	string	buy	"buy" or "sell"
size	number	5	
limitPrice	number	1.2	optional limit price
hideLimitPrice	bool	true	whether or not to hide your limit price from potential quoters, default true
requestExpiry	number	null	optional; unix timestamp of request expiry, defaults to 5 minutes in the future
counterpartyId	number	1234567	optional; when specified, makes the request private to the specified counterparty

Response

```
{
  "success": true,
  "result": {
    "id": 3,
    "option": {
      "expiry": "2020-01-10T03:00:00+00:00",
      "strike": 7800,
      "type": "call",
      "underlying": "BTC"
    },
    "expiry": "2020-01-10T03:00:00+00:00",
    "strike": 7800,
    "type": "call",
    "underlying": "BTC",
    "requestExpiry": "2020-01-08T23:05:44.047653+00:00",
    "side": "buy",
    "size": 5,
    "status": "open",
    "time": "2020-01-07T23:05:44.047653+00:00"
  },
}
```

CANCEL QUOTE REQUEST

Requires authentication.

Request

```
DELETE /options/requests/{request_id}
```

Response

```
{
  "id": 3,
  "option": {
    "expiry": "2020-01-10T03:00:00+00:00",
    "strike": 7800.0,
    "type":"call",
    "underlying": "BTC"
  },
  "requestExpiry": "2020-01-08T23:05:44.047653+00:00",
  "side": "buy",
  "size": 5.0,
  "status": "cancelled",
  "time": "2020-01-07T23:05:44.047653+00:00",
}
```

GET QUOTES FOR YOUR QUOTE REQUEST

Requires authentication.

Request

```
GET /options/requests/{request_id}/quotes
```

Response

```
{
  "success": true,
  "result": {
    "collateral": 26862.33468643,
    "id": 2,
    "option": {
      "expiry": "2020-01-08T03:00:00+00:00",
      "strike"': 10.0,
      "type": "call",
      "underlying": "BTC"
    },
    "price": 11.0,
    "quoteExpiry": null,
    "quoterSide": "sell",
    "requestId": 4,
    "requestSide": "buy",
    "size": 3.0,
    "status": "open",
    "time": "2020-01-07T23:43:24.772581+00:00"
  },
}
```

Name	Type	Value	Description
id	number	2	id of the quote
requestId	number	4	id of the quote request
status	string	open	
collateral	number	26862.33468643	collateral locked by the quote
price	number	11.0	
quoteExpiry	string	null	optional
quoterSide	string	sell	
requestSide	string	buy	

Name	Type	Value	Description
size	number	3.0	
time	string	22020-01-07T23:43:24.772581+00:00	when the quote was created
option		option object; see List Quote Requests section	
requestLimitPrice	number	null	the quote request's limit price. omitted if does not exist or hidden

CREATE QUOTE

Requires authentication.

Request

```
POST  /options/requests/{request_id}/quotes
```

```
{
  "price": 11.0,
}
```

Payload format

Name	Type	Value	Description
price	number	11.0	price of your quote

Response

```
{
  "success": true,
  "result": {
    "collateral": 26862.33468643,
    "id": 2,
    "option": {
      "expiry": "2020-01-08T03:00:00+00:00",
      "strike"': 10.0,
      "type": "call",
      "underlying": "BTC"
    },
    "price": 11.0,
    "quoteExpiry": null,
    "quoterSide": "sell",
    "requestId": 4,
    "requestSide": "buy",
    "size": 3.0,
    "status": "open",
    "time": "2020-01-07T23:43:24.772581+00:00"
  },
}
```

GET MY QUOTES

Requires authentication.

Request

```
GET /options/my_quotes
```

Response

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```json
{
  "success": true,
  "result": {
    "collateral": 26862.33468643,
    "id": 2,
    "option": {
      "expiry": "2020-01-08T03:00:00+00:00",
      "strike": 10.0,
      "type": "call",
      "underlying": "BTC"
    },
    "price": 11.0,
    "quoteExpiry": null,
    "quoterSide": "sell",
    "requestId": 4,
    "requestSide": "buy",
    "size": 3.0,
    "status": "open",
    "time": "2020-01-07T23:43:24.772581+00:00"
  },
}
```

CANCEL QUOTE

Requires authentication.

Request

```
DELETE /options/quotes/<quote_id>
```

Response

```json
{
  "success": true,
  "result": {
    "collateral": 0,
    "id": 4,
    "option": {
      "expiry": "2020-01-08T03:00:00+00:00",
      "strike": 7800,
      "type": "call",
      "underlying": "BTC",
    },
    "price": 11,
    "quoteExpiry": null,
    "quoterSide": "sell",
    "requestId": 4,
    "requestSide": "buy",
    "size": 3,
    "status": "cancelled",
    "time": "2020-01-08T00:20:00.532812+00:00",
  },
}
```

ACCEPT OPTIONS QUOTE

Requires authentication.

Request

```
POST /options/quotes/<quote_id>/accept
```

Response

```json
{
  "success": true,
  "result": {
```

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```
      "collateral": 0,
      "id": 5,
      "option": {
        "expiry": "2020-01-08T03:00:00+00:00",
        "strike": 7800,
        "type": "call",
        "underlying": "BTC",
      },
      "price": 11,
      "quoteExpiry": null,
      "quoterSide": "sell",
      "requestId": 4,
      "requestSide": "buy",
      "size": 3,
      "status": "filled",
      "time": "2020-01-08T00:20:00.532812+00:00",
    },
  }
```

GET ACCOUNT OPTIONS INFO

Requires authentication.

Request

```
GET /options/account_info
```

Response

```
{
  "success": true,
  "result": {
    "usdBalance": 34.0,
    "liquidationPrice": 1900.2,
    "liquidating": false,
  },
}
```

Name	Type	Value	Description
usdBalance	number	34.0	
liquidationPrice	number	1900.2	estimated liquidation price
liquidated	boolean	false	if the account is currently liquidating
maintenanceMarginRequirement	number	1200.12	you will be liquidated if your account collateral + options usdBalance drops below this number
initialMarginRequirement	number	1523.13	

GET OPTIONS POSITIONS

Requires authentication.

Request

```
GET /options/positions
```

Response

```
{
  "success": true,
  "result": [
    {
```

```
      "entryPrice": 11.0,
      "netSize": 3.0,
      "option": {
        "expiry": "2020-01-08T03:00:00+00:00",
        "strike": 7800,
        "type": "call",
        "underlying": "BTC",
      },
      "side": "buy",
      "size": 3,
    },
  ]
}
```

Name	Type	Value	Description
netSize	number	3.0	positive if long, negative if short
entryPrice	number	11.0	average entry price
size	number	3.0	absolute value of netSize
option		option object; see List Quote Requests section	
side	string	buy	"buy" if long, "sell" if short
pessimisticValuation	number	1.1	optional; pessimistic valuation of this position used for margin purposes
pessimisticIndexPrice	number	6280	optional; index price corresponding to pessimistic valuation
pessimisticVol	number	0.17	optional; vol corresponding to pessimistic valuation

GET PUBLIC OPTIONS TRADES

Supports pagination

Request

```
GET /options/trades
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559901511	optional; only fetch orders created before this time

Response

```
{
  "success": true,
  "result": [
    {
      "id": 31,
      "option": {
        "expiry": "2020-01-08T03:00:00+00:00",
        "strike": 7800,
        "type": "call",
        "underlying": "BTC",
      },
      "price": 3,
      "size": 1,
      "time": "2020-01-08T02:59:57.270744+00:00",
```

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```
    },
  ]
}
```

Name	Type	Value	Description
id	number	31	
size	number	1.0	
price	number	3.0	
option		option object; see List Quote Requests section	
time	string	"2020-01-08T02:59:57.270744+00:00"	

GET OPTIONS FILLS

Requires authentication.

Supports pagination

Request

```
GET /options/fills
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559901511	optional; only fetch orders created before this time

Response

```
{
  "success": true,
  "result": [
    {
      "fee": 1.782852614186007,
      "feeRate": 0.0001729,
      "id": 5,
      "liquidity": "taker",
      "option": {
        "expiry": "2020-01-08T03:00:00+00:00",
        "strike": 7800,
        "type": "call",
        "underlying": "BTC"
      },
      "price": 3,
      "quoteId": 6,
      "side": "sell",
      "size": 1,
      "time": "2020-01-08T02:59:57.270744+00:00",
    },
  ]
}
```

Name	Type	Value	Description
id	number	5	
size	number	1.0	

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Name	Type	Value	Description
price	number	3.0	
option		option object; see List Quote Requests section	
time	string	"2020-01-08T02:59:57.270744+00:00"	
liquidity	string	taker	"taker" or "maker"
fee	number	1.782852614186007	
feeRate	number	0.0001729	
side	string	buy	

GET 24H OPTION VOLUME

Request

```
GET /stats/24h_options_volume
```

Response

```
{
  "success": true,
  "result": [
    {
      "contracts": 216.6842,
      "underlying_total": 2111838.071037173,
    }
  ]
}
```

Name	Type	Value	Description
contracts	number	216.6842	Number of contracts traded over the last 24 hours
underlying_total	number	2111838.071037173	Notional value of the contracts traded over the last 24 hours

GET OPTION OPEN INTEREST

Supports pagination

Request

```
GET /options/historical_volumes/BTC
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559901511	optional; only fetch orders created before this time

Response

```
{
    "success": true,
```

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```
    "result": [
        {
            "numContracts": 1.0,
            "endTime": "2020-07-01T04:06:00.584303+00:00",
            "startTime": "2020-07-01T03:06:00.543341+00:00"
        }
    ]
}
```

Name	Type	Value	Description
numContracts	number	12572.0898	Volume (in BTC)
endTime	string	"2020-07-01T04:06:00.584303+00:00"	
startTime	string	"2020-07-01T03:06:00.543341+00:00"	

GET OPTION OPEN INTEREST

Request

```
GET /options/open_interest/BTC
```

Response

```
{
  "success": true,
  "result": {
    "openInterest": 12572.0898
  }
}
```

Name	Type	Value	Description
openInterest	number	12572.0898	Open interest (in BTC)

GET OPTION OPEN INTEREST

Supports pagination

Request

```
GET options/historical_open_interest/BTC
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch orders created after this time
end_time	number	1559901511	optional; only fetch orders created before this time

Response

```
{
    "success": true,
    "result": [
        {
            "numContracts": 5870.6395,
            "time": "2020-07-01T04:06:00.589877+00:00"
        }
```

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```
    ]
  }
```

Name	Type	Value	Description
numContracts	number	12572.0898	Open interest (in BTC)
time	string	"2020-07-01T04:06:00.589877+00:00"	

Staking

GET STAKES

Request

```
GET /staking/stakes
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "SRM",
      "createdAt": "2020-08-12T12:13:56.900236+00:00",
      "id": 2447,
      "size": 0.1,
    }
  ]
}
```

Name	Type	Value
coin	string	SRM
createdAt	string	2020-08-12T12:13:56.900236+00:00
id	int	2447
size	number	0.1

UNSTAKE REQUEST

Request

```
GET /staking/unstake_requests
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "SRM",
      "createdAt": "2020-08-12T20:49:07.210200+00:00",
      "id": 121,
      "size": 0.1,
      "status": "pending",
      "unlockAt": "2020-08-19T20:49:07.225716+00:00",
    }
```

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```
    ]
  }
```

Name	Type	Value
coin	string	SRM
createdAt	string	2020-08-12T20:49:07.210200+00:00
id	int	121
size	number	0.1
status	string	pending (pending, cancelled, processed)
unlockAt	string	2020-08-19T20:49:07.225716+00:00

GET STAKE BALANCES

Returns actively staked, scheduled for unstaking and lifetime rewards balances

Request

```
GET /staking/balances
```

Response

```
{
  "success": true,
  "result": [
    {  "coin": "SRM",
       "lifetimeRewards": 1.98e-06,
       "scheduledToUnstake": 0.1,
       "staked": 0.0},
    {  "coin": "MSRM",
       "lifetimeRewards": 0,
       "scheduledToUnstake": 0,
       "staked": 0.0},
    {  "coin": "MSRM_LOCKED",
       "lifetimeRewards": 0,
       "scheduledToUnstake": 0,
       "staked": 0.0},
    {  "coin": "SRM_LOCKED",
       "lifetimeRewards": 1.98e-06,
       "scheduledToUnstake": 0,
       "staked": 0.0,
    }
  ]
}
```

UNSTAKE REQUEST

Request parameters

Request

```
POST /staking/unstake_requests
```

Response

```
{
  "success": true,
  "result": [
    {  "coin": "SRM",
       "createdAt": "2020-08-12T21:03:21.539419+00:00",
```

```
        "id": 122,
        "size": 0.1,
        "status": "pending",
        "unlockAt": "2020-08-19T21:03:21.543783+00:00",
      }
    ]
  }
```

Name	Type	Value
coin	string	SRM
size	number	0.1

Name	Type	Value
coin	string	SRM
createdAt	string	2020-08-12T21:03:21.539419+00:00
size	number	0.1
status	string	pending (pending, cancelled, processed)
unlockAt	string	2020-08-19T21:03:21.543783+00:00

CANCEL UNSTAKE REQUEST

Request

```
DELETE /staking/unstake_requests/{request_id}
```

Response

```
{
  "success": true,
  "result": ["Cancelled"]
}
```

GET STAKING REWARDS

Supports pagination

Request

```
GET /staking/staking_rewards
```

Response

```
{
  "success": true,
  "result": [
    {  "coin": "SRM",
       "id": 99730,
       "size": 0.1,
       "status": "complete",
       "time": "2020-08-12T20:15:25.260879+00:00"},
    }
  ]
}
```

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Name	Type	Value
coin	string	SRM
id	int	99730
size	number	0.1
status	string	complete
time	string	2020-08-12T20:15:25.260879+00:00

STAKE REQUEST

Request parameters

Request

```
POST /srm_stakes/stakes
```

Response

```
{
  "success": true,
  "result": [
  {  "coin": "SRM",
     "createdAt": "2020-08-12T21:17:39.884879+00:00",
     "id": 3001,
     "size": 0.1,
  }
   ]
}
```

Name	Type	Value
coin	string	SRM
size	number	0.1

Name	Type	Value
coin	string	SRM
createdAt	string	2020-08-12T21:17:39.884879+00:00
id	int	3001
size	number	0.1

Convert

REQUEST QUOTE

Request

```
POST /otc/quotes
```

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```
{
  "fromCoin": "BTC",
  "toCoin": "USD",
  "size": 0.05
}
```

Response

```
{
  "success": true,
  "result": {
    "quoteId": 1031
  }
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
fromCoin	string	BTC	
toCoin	string	USD	
size	number	0.05	denominated in units of fromCoin

Response format

Name	Type	Value	Description
quoteId	number	1031	

GET QUOTE STATUS

Request

```
GET /otc/quotes/{quoteId}
```

Response

```
{
  "success": true,
  "result": [
    {
      "baseCoin": "BTC",
      "cost": 0.05,
      "expired": false,
      "expiry": 1630355607.399486,
      "filled": false,
      "fromCoin": "BTC",
      "id": 1031,
      "price": 7695.4,
      "proceeds": 384.77,
      "quoteCoin": "USD",
      "side": "sell",
      "toCoin": "USD"
    }
  ]
}
```

Requires authentication.

Request parameters

Name	Type	Value	Description
market	string	BTC/USD	optional; market to limit orders

Response format

Name	Type	Value	Description
baseCoin	string	BTC	
cost	number	0.05	cost of accepting the quote in units of fromCoin
expired	bool	false	if the quote is expired (if so, cannot accep tit)
filled	bool	false	if the quote is already accepted
id	number	1031	
price	number	7695.4	price in units of quoteCoin
proceeds	number	384.77	proceeds of accepting the quote in units of toCoin
quoteCoin	string	USD	
side	string	"sell"	"sell" if fromCoin is baseCoin, otherwise "buy"
toCoin	string	USD	

ACCEPT QUOTE

Request

```
POST /otc/quotes/{quote_id}/accept
```

Response

```
{
  "success": true,
  "result": null
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
quoteId	number	1031	

Spot Margin

GET LENDING HISTORY

Request

```
GET /spot_margin/history
```

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Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch history after this time
end_time	number	1559901511	optional; only fetch history before this time

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "time": "2021-04-06T20:00:00+00:00",
      "rate": 0.00002283,
      "size": 615974048.2224404
    }
  ]
}
```

Response format

Name	Type	Value	Description
coin	string	USD	
time	string	2021-04-06T20:00:00+00:00	
rate	number	0.00002283	hourly lending rate for this cycle
size	number	615974048.2224404	total size matched between borrowers and lenders

GET BORROW RATES

Request

```
GET /spot_margin/borrow_rates
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "estimate": 1.45e-06,
      "previous": 1.44e-06
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
coin	string	BTC	

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Name	Type	Value	Description
estimate	number	1.45e-06	estimated hourly borrow rate for the next spot margin cycle
previous	number	1.44e-06	hourly borrow rate in the previous spot margin cycle

GET LENDING RATES

Request

```
GET /spot_margin/lending_rates
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "estimate": 1.45e-06,
      "previous": 1.44e-06
    }
  ]
}
```

Response format

Name	Type	Value	Description
coin	string	BTC	
estimate	number	1.45e-06	estimated hourly lending rate for the next spot margin cycle
previous	number	1.44e-06	hourly lending rate in the previous spot margin cycle

GET DAILY BORROWED AMOUNTS

Request

```
GET /spot_margin/borrow_summary
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "size": 120.1,
    }
  ]
}
```

Response format

Name	Type	Value	Description
coin	string	BTC	
size	number	120.1	average matched borrowed and lent amount over the last 24h

GET MARKET INFO

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Request

```
GET /spot_margin/market_info?market={market}
```

Response

```json
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "borrowed": 0.0,
      "free": 3.87278021,
      "estimatedRate": 1e-06,
      "previousRate": 1e-06
    },
    {
      "coin": "USD",
      "borrowed": 0.0,
      "free": 69966.22310497,
      "estimatedRate": 1.027e-05,
      "previousRate": 1.027e-05
    }
  ]
}
```

Requires authentication.

Will return None if spot margin is not enabled in account settings.

Response format

Name	Type	Value	Description
coin	string	BTC	
borrowed	number	0.0	amount of coin currently borrowed
free	number	3.87278021	amount of coin that can be spent buying the other coin in the supplied market, including what's borrowable with margin
estimatedRate	number	1.45e-06	estimated hourly borrow rate for the next spot margin cycle
previousRate	number	1.44e-06	hourly borrow rate in the previous spot margin cycle

GET MY BORROW HISTORY

Request

Supports pagination

```
GET /spot_margin/borrow_history
```

Response

```json
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "cost": 0.00047864470072,
      "rate": 1.961096e-05,
      "size": 24.407,
      "time": "2020-11-30T12:00:00+00:00"
    }
```

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```
    ]
  }
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch history after this time
end_time	number	1559901511	optional; only fetch history before this time

Response format

Name	Type	Value	Description
coin	string	BTC	
cost	number	0.00047864470072	amount of coin you paid as interest on the borrow
rate	number	1.961096e-05	borrow rate
size	number	24.407	amount borrowed
time	string	2020-11-30T12:00:00+00:00	time of interest payment

GET MY LENDING HISTORY

Request

Supports pagination

```
  GET /spot_margin/lending_history
```

Response

```
  {
    "success": true,
    "result": [
      {
        "coin": "BTC",
        "proceeds": 0.00047864470072,
        "rate": 1.961096e-05,
        "size": 24.407,
        "time": "2020-11-30T12:00:00+00:00"
      }
    ]
  }
```

Requires authentication.

Supports pagination

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional; only fetch history after this time
end_time	number	1559901511	optional; only fetch history before this time

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Response format

Name	Type	Value	Description
coin	string	BTC	
proceeds	number	0.00047864470072	amount of coin you were paid as interest on the loan
rate	number	1.961096e-05	lending rate
size	number	24.407	amount lent
time	string	2020-11-30T12:00:00+00:00	time of interest payment

GET LENDING OFFERS

Request

```
GET /spot_margin/offers
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": "BTC",
      "rate": 1e-06,
      "size": 1.0
    }
  ]
}
```

Requires authentication.

Response format

Name	Type	Value	Description
coin	string	BTC	
rate	number	1e-06	hourly rate at which you will lend, if matched
size	number	1.9	amount you will lend, if matched

GET LENDING INFO

Request

```
GET /spot_margin/lending_info
```

Response

```
{
  "success": true,
  "result": [
    {
      "coin": 'USD',
      "lendable": 10026.5,
      "locked": 100.0,
      "minRate": 1e-06,
      "offered": 100.0
    }
```

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```
    ]
  }
```

Requires authentication.

Response format

Name	Type	Value	Description
coin	string	USD	
lendable	number	10026.5	additional size you can lend
locked	number	100.0	size either in lending offers or not yet unlocked from lending offers
minRate	number	1e-6	minimum rate at which your offers will lend
offered	number	100.0	size in your lending offers

SUBMIT LENDING OFFER

Request

```
POST /spot_margin/offers
```

```
{
  "coin": "USD",
  "size": 10.0,
  "rate": 1e-6
}
```

Response

```
{
  "success": true,
  "result": null,
}
```

Requires authentication.

Payload format

Name	Type	Value	Description
coin	string	USD	
size	number	10.0	
rate	number	1e-6	

NFTs

Rest API for NFTs on FTX.

NFT endpoints base URL: **https://ftx.com/api/nft**

LIST NFTS

Request

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```
GET /nft/nfts
```

Response

```json
{
  "success": true,
  "result": [
    {
      "id": 123456,
      "name": "Rare NFT",
      "description": "Rare art",
      "issuer": "FTX",
      "collection": "FTX rare art",
      "series": "Art for charity",
      "solMintAddress": "8Jntdo3RMxQyGvuRkRjFA3aJ",
      "ethContractAddress": "0x014Dc156cA770baC5475186834ecd2f624C990K",
      "imageUrl": "https://www.static.ftx.com/art.jpg",
      "videoUrl": "https://www.static.ftx.com/art.mp4",
      "attributes": null,
      "redeemable": true,
      "redeemed": false,
      "offerPrice": 1000.00,
      "auction": {
        "bestBid": 120.00,
        "minNextBid": 125.00,
        "endTime": "2021-06-11T07:23:24.106062+00:00",
        "bids": 10
      }
    }
  ]
}
```

Response format

Name	Type	Value	Description
id	number	123456	unique ID of NFT
name	string	Rare NFT	name of NFT
description	string	Rare art	description of NFT
issuer	string	FTX	entity issuing NFT
collection	string	FTX rare art	NFT collection name
series	string	Art for charity	NFT series
solMintAddress	string	8Jntdo3RMxQyGvuRkRjFA3aJ	
ethContractAddress	string	0x014Dc156cA770baC5475186834ecd2f624C990K	
imageUrl	string	https://www.static.ftx.com/art.jpg	
videoUrl	string	https://www.static.ftx.com/art.mp4	
attributes	string	null	
redeemable	boolean	true	true if NFT is redeemable for goods
redeemed	boolean	false	true if NFT is redeemable and has been redeemed
offerPrice	number	1000.00	
auction	array		

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GET NFT INFO

Request

```
GET /nft/nft/{nft_id}
```

Response

```json
{
  "success": true,
  "result": {
      "id": 123456,
      "name": "Rare NFT",
      "description": "Rare art",
      "issuer": "FTX",
      "collection": "FTX rare art",
      "series": "Art for charity",
      "solMintAddress": "8Jntdo3RMxQyGvuRkRjFA3aJ",
      "ethContractAddress": "0x014Dc156cA770baC5475186834ecd2f624C990K",
      "imageUrl": "https://www.static.ftx.com/art.jpg",
      "videoUrl": "https://www.static.ftx.com/art.mp4",
      "attributes": null,
      "redeemable": true,
      "redeemed": false,
      "offerPrice": 1000.00,
      "auction": {
        "bestBid": 120.00,
        "minNextBid": 125.00,
        "endTime": "2021-06-11T07:23:24.106062+00:00",
        "bids": 10
      }
    }
  }
}
```

Response format

Name	Type	Value	Description
id	number	123456	unique ID of NFT
name	string	Rare NFT	name of NFT
description	string	Rare art	description of NFT
issuer	string	FTX	entity issuing NFT
collection	string	FTX rare art	NFT collection name
series	string	Art for charity	NFT series
solMintAddress	string	8Jntdo3RMxQyGvuRkRjFA3aJ	
ethContractAddress	string	0x014Dc156cA770baC5475186834ecd2f624C990K	
imageUrl	string	https://www.static.ftx.com/art.jpg	
videoUrl	string	https://www.static.ftx.com/art.mp4	
attributes	string	null	
redeemable	boolean	true	true if NFT is redeemable for goods
redeemed	boolean	false	true if NFT is redeemable and has been redeemed
offerPrice	number	1000.00	

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Name	Type	Value	Description
auction	array		

GET NFT TRADES

Supports pagination

Request

```
GET /nft/{nft_id}/trades
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response

```
{
  "success": true,
  "result": [
    {
      "id": 490,
      "price": 333.0,
      "time": "2021-06-10T19:48:34.313252+00:00"
    }, {
      "id": 47,
      "price": 350.0,
      "time": "2021-06-03T14:18:40.496298+00:00"
    }, {
      "id": 42,
      "price": 139.0,
      "time": "2021-06-03T13:57:00.467274+00:00"
    }
  ]
}
```

Response format

Name	Type	Value	Description
id	number	42	
price	number	333.0	
time	string	2021-06-03T13:57:00.467274+00:00	

GET ALL NFT TRADES

Supports pagination

Request

```
GET /nft/all_trades
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response

```json
{
  "success":true,
  "result": [
    {
      "id":123,
      "nft": {
        "id": 123456,
        "name": "Rare NFT",
        "description": "Rare art",
        "issuer": "FTX",
        "collection": "FTX rare art",
        "series": "Art for charity",
        "solMintAddress": "8Jntdo3RMxQyGvuRkRjFA3aJ",
        "ethContractAddress": "0x014Dc156cA770baC5475186834ecd2f624C990K",
        "imageUrl": "https://www.static.ftx.com/art.jpg",
        "videoUrl": "https://www.static.ftx.com/art.mp4",
        "attributes": null,
        "redeemable": true,
        "redeemed": false,
        "offerPrice": 1000.00,
        "auction": {
          "bestBid": 120.00,
          "minNextBid": 125.00,
          "endTime": "2021-06-11T07:23:24.106062+00:00",
          "bids": 10
        }
      },
      "price": 1450.0,
      "time": "2021-06-09T15:39:15.364317+00:00"
    }, {
      "id": 124,
      ......
    }
  ]
}
```

Response format

Name	Type	Value	Description
id	number	Rare NFT	NFT trade id
nft	array		See List NFTs for details
price	number	1450.0	trade price of NFT
time	string	2021-06-09T15:39:15.364317+00:00	

GET NFT ACCOUNT INFO

Request

```
GET /nft/{nft_id}/account_info
```

Response

```json
{
  "success": true,
```

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```
    "result": {
      "bid": 120.00,
      "buyFee": 6.00,
      "isBestBid": False,
      "owned": False
    }
  }
```

Response format

Name	Type	Value	Description
bid	number	120.00	
buyFee	number	6.00	
isBestBid	boolean	False	
owned	boolean	False	

GET ALL NFT COLLECTIONS

Request

```
GET /nft/collections
```

Response

```
{
  "success": true,
  "result": [
    {
      "issuer": "FTX",
      "collection":"FTX Special"
    }, {
      "issuer": "FTX",
      "collection": "FTX Swag"
    }, .....
  ]
}
```

Response format

Name	Type	Value	Description
issuer	string	FTX	issuer of NFT collection
collection	string	FTX	NFT collection name

GET NFT BALANCES

Requires authentication.

Request

```
GET /nft/balances
```

Response

```
{
  "success": true,
  "result": [
    {
```

```json
    "id": 123456,
    "name": "Rare NFT",
    "description": "Rare art",
    "issuer": "FTX",
    "collection": "FTX rare art",
    "series": "Art for charity",
    "solMintAddress": "8Jntdo3RMxQyGvuRkRjFA3aJ",
    "ethContractAddress": "0x014Dc156cA770baC5475186834ecd2f624C990K",
    "imageUrl": "https://www.static.ftx.com/art.jpg",
    "videoUrl": "https://www.static.ftx.com/art.mp4",
    "attributes": null,
    "redeemable": true,
    "redeemed": false,
    "offerPrice": 1000.00,
    "auction": {
      "bestBid": 120.00,
      "minNextBid": 125.00,
      "endTime": "2021-06-11T07:23:24.106062+00:00",
      "bids": 10
    }
  }
 ]
}
```

Response format

Name	Type	Value	Description
id	number	123456	unique ID of NFT
name	string	Rare NFT	name of NFT
description	string	Rare art	description of NFT
issuer	string	FTX	entity issuing NFT
collection	string	FTX rare art	NFT collection name
series	string	Art for charity	NFT series
solMintAddress	string	8Jntdo3RMxQyGvuRkRjFA3aJ	
ethContractAddress	string	0x014Dc156cA770baC5475186834ecd2f624C990K	
imageUrl	string	https://www.static.ftx.com/art.jpg	
videoUrl	string	https://www.static.ftx.com/art.mp4	
attributes	string	null	
redeemable	boolean	true	true if NFT is redeemable for goods
redeemed	boolean	false	true if NFT is redeemable and has been redeemed
offerPrice	number	1000.00	
auction	array		

MAKE NFT OFFER

Requires authentication.

Request

```
POST /nft/offer
```

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Request parameters

Name	Type	Value	Description
nftId	int	12345	
price	number	500.0	

Response

```
See /nft/{nftId}
```

BUY NFT

Requires authentication.

Request

```
POST /nft/buy
```

Request parameters

Name	Type	Value	Description
nftId	int	12345	
price	number	500.0	

Response

```
See /nft/{nftId}
```

CREATE AUCTION

Requires authentication.

Request

```
POST /nft/auction
```

Request parameters

Name	Type	Value	Description
initialPrice	number	120.0	
reservationPrice	number	500.0	
duration	int	3600	duration in seconds

Response

```
See /nft/{nftId}
```

EDIT AUCTION

Requires authentication.

Request

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```
POST /nft/edit_auction
```

Request parameters

Name	Type	Value	Description
reservationPrice	number	600.0	

Response

```
See /nft/{nftId}
```

CANCEL AUCTION

Requires authentication.

Request

```
POST /nft/cancel_auction
```

Request parameters

Name	Type	Value	Description
nftId	number	12345	
reservationPrice	number	500.0	

Response

```
See /nft/{nftId}
```

GET BIDS

Requires authentication.

Request

```
GET /nft/bids
```

Response

```
See /nft/nfts
```

PLACE BID

Requires authentication.

Request

```
POST /nft/bids
```

Request parameters

Name	Type	Value	Description
nftId	number	12345	

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Name	Type	Value	Description
price	number	500.0	

Response

```
See /nft/{nftId}
```

GET NFT DEPOSITS

Requires authentication.

Supports pagination

Request

```
GET /nft/deposits
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response

```json
{
  "success": true,
  "result": [
    {
      "id": 999899,
      "nft": {
        See /nfts,
      },
      "status": "confirmed",
      "time": "2021-06-10T09:15:43.136561+00:00",
      "sentTime": "2021-06-11T07:23:24.106062+00:00",
      "confirmedTime": "2021-06-11T07:27:40.237006+00:00",
      "confirmations": 8,

    }, {
      "id": 777877,
      .....
    },
  ]
}
```

Response format

Name	Type	Value	Description
id	int	999899	
nft	array		See List NFTs for details
status	string	confirmed	one of: unconfirmed, confirmed, cancelled
time	string	2021-06-10T09:15:43.136561+00:00	NFT created at
sentTime	string	2021-06-11T07:23:24.106062+00:00	

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Name	Type	Value	Description
confirmedTime	string	2021-06-11T07:27:40.237006+00:00	
confirmations	int	8	

GET NFT WITHDRAWALS

Requires authentication.

Supports pagination

Request

```
GET /nft/withdrawals
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response

```
{
  "success": true,
  "result": [
    {
      "id": 12345,
      "nft": {
        See /nfts,
      },
      "address": "0x014Dc156cA770baC5475186834ecd2f624C990K",
      "method": "erc20",
      "txid": "0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7ffcaf1",
      "fee": "20.0",
      "status": "sent",
      "time": "2021-06-11T07:23:24.106062+00:00",
      "notes": null
    }, {
      "id": 45678,
      .....
    },
  ]
}
```

Response format

Name	Type	Value	Description
id	number	12345	
nft	array		See List NFTs for details
address	string	0x014Dc156cA770baC5475186834ecd2f624C990K	
method	string	erc20	erc20 or sol
txid	string	0x8078356ae4b06a036d64747546c274af19581f1c78c510b60505798a7ffcaf1	
fee	number	20.0	

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Name	Type	Value	Description
status	string	confirmed	one of: requested, processing, sent, completed, cancelled
time	string	2021-06-11T07:23:24.106062+00:00	
notes	string	null	

GET NFT FILLS

Requires authentication.

Supports pagination

Request

```
GET /nft/fills
```

Request parameters

Name	Type	Value	Description
start_time	number	1559881511	optional
end_time	number	1559881711	optional

Response

```
{
  "success": true,
  "result": [
    {
      "id": 12345,
      "nft": {
        See /nfts,
      },
      "side": "buy",
      "price": 150.0,
      "fee": 7.5,
      "time": "2021-06-11T07:23:24.106062+00:00"
    }, {
      "id": 45678,
      .....
    },
  ]
}
```

Response format

Name	Type	Value	Description
id	number	12345	
nft	array		See List NFTs for details
side	string	buy	trade price of NFT
price	number	150.0	
fee	number	7.5	
time	string	2021-06-09T15:39:15.364317+00:00	

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REDEEM NFT

Requires authentication.

Request

```
POST /nft/redeem
```

Request parameters

Name	Type	Value	Description
nftId	number	12345	
address	string		
notes	string		

Response

```
{
    "success": true,
    "result": {
        "id": 12345,
        "nft": {
          See /nfts,
        },
        "time": "2021-06-11T07:23:24.106062+00:00",
        "notes": null,
        "address": "0x014Dc156cA770baC5475186834ecd2f624C990K",
        "status": "redeemed",
        "supportTicketId": 1014
    }
}
```

Response format

Name	Type	Value	Description
id	number	12345	
nft	array		See List NFTs for details
time	string	2021-06-09T15:39:15.364317+00:00	
notes	string	null	
address	string	0x014Dc156cA770baC5475186834ecd2f624C990K	
status	string	confirmed	one of: requested, pending_review, processing, sent, complete, cancelled, failed
supportTicketId	int	1014	id of associated support ticket

GET NFT GALLERY

Requires authentication.

Request

```
GET /nft/gallery/{gallery_id}
```

Request parameters

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Name	Type	Value	Description
gallery_id	number	12345	NFT gallery id

Response

```
{
  "success": true
  "result": {
    "name": "My-Awesome-NFTs",
    "nfts": [
      See /nfts
    ]
  }
}
```

Response format

Name	Type	Value	Description
name	string	My-Awesome-NFTs	name of NFT gallery
nfts	array		See List NFTs

GET GALLERY SETTINGS

Requires authentication.

Request

```
GET /nft/gallery_settings
```

Response

```
{
  "success": true
  "result": {
    "id": 888789,
    "public": true
  }
}
```

Response format

Name	Type	Value	Description
id	number	888789	NFT gallery id
public	boolean	true	true if NFT gallery is public

EDIT GALLERY SETTINGS

Requires authentication.

Request

```
POST /nft/gallery_settings
```

Request parameters

Name	Type	Value	Description
public	boolean	true	set NFT gallery public or private

Latency statistics

See latency statistics for a period of time and for one or all subaccounts.

`days` specifies the time period, from `days` days ago up to now - defaults to 1.

You can specify a subaccount by passing its nickname to `subaccount_nickname`, or specify the main account by using `subaccount_nickname='_main'`. Leaving this field blank will return results aggregated across all subaccounts.

Request

```
GET /stats/latency_stats?days={days}&subaccount_nickname={subaccount_nickname}
```

Parameters

Name	Type	Value	Description
days	int	5	Optional. Number of days in the past to check.
subaccount_nickname	str	'_main'	Optional. Subaccount name to get stats for specific subaccount (or main).

Response format

Response

```json
{
  "success": true,
  "result": [
    {
      "bursty": true,
      "p50": 0.059,
      "requestCount": 43,
    },
    {
      "bursty": false,
      "p50": 0.047,
      "requestCount": 27
    },
  ]
}
```

Name	Type	Value	Description
bursty	boolean	true	Whether the orders are "bursty" (two or more orders sent from the same account simultaneously)
p50	number	0.059	50th-percentile latency experienced by your account in the last 24 hours
requestCount	number	43	Number of orders placed by your account in the last 24 hours

Support tickets

GET ALL SUPPORT TICKETS

Get all your support tickets (limit 100).

Requires authentication.

Request

```
GET /support/tickets
```

Response

```
{
  "success": true,
  "result": [
    {
      "id": 42,
      "title": "Support ticket for your GBP deposit",
      "time": "2021-07-14T22:27:11.041873+00:00",
      "category": "fiat deposit",
      "status": "open",
      "error": None,
      "fiatDeposit": {
        "id": 37,
        "coin": "GBP",
        "size": 12.34,
        "status": "complete",
        "time": "2021-07-13T22:27:11.041873+00:00",
        "confirmedTime": "2021-07-13T22:27:12.041873+00:00",
        "uploadedFile": None,
        "uploadedFileName": None,
        "cancelReason": None,
        "fiat": True,
        "ach": False,
        "type": "bank"
      },
      "depositHelpRequest": None,
      "autoExpireAt": None
    },
    {
      "id": 43,
      "title": "BUSD not arriving.",
      "time": "2021-07-15T22:27:11.041873+00:00",
      "category": "crypto deposit",
      "status": "open",
      "error": None,
      "fiatDeposit": None,
      "depositHelpRequest": {
        "id": 73,
        "coin": "BUSD",
        "wallet": "bsc",
        "txid": "0xd232f8a398c8ed84a4344ab0076a0af0735a30fab7698541bee96230274de13e",
        "size": None,
        "transactionTime": "2021-07-14T21:27:11.041873+00:00",
        "creditedSize": None
      },
      "autoExpireAt": None
    },
    {
      "id": 44,
      "title": "Help",
      "time": "2021-07-16T22:27:11.041873+00:00",
      "category": "other",
      "status": "closed",
      "error": None,
      "fiatDeposit": None,
      "depositHelpRequest": None,
      "autoExpireAt": None
    }
  ]
}
```

Response format

Name	Type	Value	Description
id	number	42	Support ticket ID
title	string	"Support ticket for your GBP deposit"	Support ticket title
time	string	"2021-07-14T22:27:11.041873+00:00"	Support ticket creation time
category	string	"fiat deposit"	Support ticket category
status	string	"open"	Support ticket status
error	string	None	Support ticket error; null if no error
fiatDeposit	dict	None	Fiat deposit this support ticket relates to; null if not a fiat deposit ticket
depositHelpRequest	dict	None	Deposit help request this support ticket relates to; null if not a crypto deposit ticket
autoExpireAt	strong	None	Time at which the ticket expires; null by default

GET SUPPORT TICKET MESSAGES

View all messages for one support ticket. You can only view messages for support tickets for your account.

Requires authentication.

Request

```
GET /support/tickets/<int:ticket_id>/messages
```

Response

```
{
  "ticket": {
    "id": 44,
    "title": "Help",
    "time": "2021-07-16T22:27:11.041873+00:00",
    "category": "other",
    "status": "closed",
    "error": None,
    "fiatDeposit": None,
    "depositHelpRequest": None,
    "autoExpireAt": None
  },
  "messages": [
    {
      "id": 164,
      "message": "I need help.",
      "uploadedFileName": None,
      "authorIsCustomer": True,
      "time": "2021-07-16T22:27:11.041873+00:00"
    },
    {
      "id": 173,
      "message": "Can you elaborate?",
      "uploadedFileName": None,
      "authorIsCustomer": False,
      "time": "2021-07-16T22:47:11.041873+00:00"
    },
    {
      "id": 189,
      "message": "I don't know where to find the FTX API documentation.",
      "authorIsCustomer": True,
      "time": "2021-07-16T23:27:11.041873+00:00"
```

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```
      },
      {
        "id": 191,
        "message": "You can find it at https://docs.ftx.com/.",
        "authorIsCustomer": False,
        "time": "2021-07-16T23:29:11.041873+00:00"
      },
      {
        "id": 201,
        "message": "Great, thank you!",
        "authorIsCustomer": True,
        "time": "2021-07-16T23:30:11.041873+00:00"
      }
    ]
  }
```

Parameters

Name	Type	Value	Description
ticket_id	int	42	ID of the support ticket you want to view

Response format

Name	Type	Value	Description
ticket	dict		Ticket object (see above)
messages	list		List of message objects (see below)

Message object format

Name	Type	Value	Description
id	number	164	Message ID
message	string	"I need help."	Content of the message
uploadedFileName	string	None	File attached to the message; null if no such file
authorIsCustomer	bool	True	True if the author of the message is the customer, false if the author is one of our support team members
time	string	"2021-07-16T23:30:11.041873+00:00"	The time at which the message was sent

SEND A SUPPORT MESSAGE

Send a new message to one of your support tickets. Note that there is a limit of 100 messages per ticket.

Requires authentication.

Request

```
POST /support/tickets
Content-Type: multipart/form-data
```

Response

```
{
  "success": true,
  "result": null
}
```

Payload format

Name	Type	Value	Description
title	string	"Help"	Title of your new support ticket.
category	string	"other"	Category for your new support ticket.
message	string	"I need help."	Initial message for your new support ticket.
fiatDepositId	int	None	Optional. ID of the fiat deposit relating to your new support ticket.
supportFile	file	None	Optional. Supported file formats (.png .jpg .pdf .doc .docx)

SEND A SUPPORT MESSAGE

Send a new message to one of your support tickets. Note that there is a limit of 100 messages per ticket.

Requires authentication.

Request

```
POST /support/tickets/<int:ticket_id>/messages
Content-Type: multipart/form-data
```

Response

```
{
  "success": true,
  "result": null
}
```

Payload format

Name	Type	Value	Description
ticket_id	int	44	The ID of the ticket you want to send to.
message	string	"Thank you."	The message you want to send.
supportFile	file	None	Optional. Supported file formats (.png .jpg .pdf .doc .docx)

UPDATE THE STATUS OF YOUR SUPPORT TICKET

Requires authentication.

Request

```
POST /support/tickets/<int:ticket_id>/status
```

```
{
  "status": "closed"
}
```

Response

```
{
  "success": true,
  "result": null
}
```

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Payload format

Name	Type	Value	Description
ticket_id	int	44	The ID of the ticket you want to update.
status	string	"closed"	"closed" to close an open support ticket and "open" to reopen a closed one.

COUNT TOTAL NUMBER OF UNREAD SUPPORT MESSAGES

Returns the total number of unread messages across all your support tickets.

Requires authentication.

Request

```
GET /support/tickets/count_unread
```

Response

```
{
  "success": true,
  "result": 42
}
```

MARK SUPPORT MESSAGES READ

Marks all support messages for the given ticket as read.

Requires authentication.

Request

```
POST /support/tickets/<int:ticket_id>/mark_as_read
```

Response

```
{
  "success": true,
  "result": null
}
```

Websocket API

Streaming API with the most up-to-date market and account order data. With this API, you can send messages to a server and receive event-driven responses without having to poll the server for a reply.

Websocket endpoint URL: **wss://ftx.com/ws/**

Requests and responses use JSON.

You can find sample code here: https://github.com/ftexchange/ftx

REQUEST PROCESS

Websocket connections go through the following lifecycle:

- Establish a websocket connection with `wss://ftx.com/ws/`
- (Optional) Authenticate with `{'op': 'login', 'args': {'key': <api_key>, 'sign': <signature>, 'time': <ts>}}`

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- Send pings at regular intervals (every 15 seconds): `{'op': 'ping'}`. You will see an `{'type': 'pong'}` response.
- Subscribe to a channel with `{'op': 'subscribe', 'channel': 'trades', 'market': 'BTC-PERP'}`
- Receive subscription response `{'type': 'subscribed', 'channel': 'trades', 'market': 'BTC-PERP'}`
- Receive data `{'type': 'update', 'channel': 'trades', 'market': 'BTC-PERP', 'data': {'id': 15884651, 'price': 5231.0, 'size': 0.07, 'side': 'sell', 'liquidation': false, 'time': '2021-08-12T03:03:31.656050+00:00'}}`
- Unsubscribe `{'op': 'unsubscribe', 'channel': 'trades', 'market': 'BTC-PERP'}`
- Receive unsubscription response `{'type': 'unsubscribed', 'channel': 'trades', 'market': 'BTC-PERP'}`

REQUEST FORMAT

Messages sent to the server should contain the following dictionary items:

- `channel`: The channel for which you want data. Should be one of
    - `orderbook` for orderbook market data
    - `trades` for trade market data
    - `ticker` for best bid and offer market data
- `market`: The market for which you want data. Example: `BTC-PERP`
- `op`: The operation you want to run. Should be one of
    - `subscribe` to subscribe to a channel
    - `unsubscribe` to unsubscribe from a channel

RESPONSE FORMAT

- `channel`
- `market`
- `type`: The type of message
    - `error`: Occurs when there is an error. When `type` is `error`, there will also be a `code` and `msg` field. `code` takes on the values of standard HTTP error codes.
    - `subscribed`: Indicates a successful subscription to the channel and market.
    - `unsubscribed`: Indicates a successful unsubscription to the channel and market.
    - `info`: Used to convey information to the user. Is accompanied by a `code` and `msg` field.
        - When our servers restart, you may see an `info` message with code `20001`. If you do, please reconnect.
    - `partial`: Contains a snapshot of current market data. The data snapshot can be found in the accompanying `data` field.
    - `update`: Contains an update about current market data. The update can be found in the accompanying `data` field.
- `code` (optional)
- `msg` (optional)
- `data` (optional)

Public Channels

TICKER

The `ticker` channel provides the latest best bid and offer market data. All messages are updates (`update`), and the `data` field contains: - `bid`: Best bid price if a bid exists, else `null` - `ask`: Best ask price if an ask exists, else `null` - `last`: Last trade price if it exists, else `null` - `time`: Timestamp

MARKETS

The `markets` channel provides information on the full set of tradable markets and their specifications. After subscription and whenever any market lists, delsists, or changes, you will receive a `partial` message with information on all markets. The `data` field both types of messages will contain a list of market information dictionaries, each of which contains:

- `name`: name of the market
- `enabled`: if the market is enabled
- `priceIncrement`: price tick size
- `sizeIncrement`: min size step
- `type`: 'future' or 'spot'
- `baseCurrency`: base currency if spot, else `null`
- `quoteCurrency`: quote currency if spot, else `null`
- `underlying`: underlying if future, else `null`
- `restricted`: if the market has nonstandard restrictions on which jurisdictions can trade it
- `future`: `null` if the market has no future, otherwise a dictionary containing the following (see the REST /futures documentation for explanations of each field): `name`, `underlying`, `description`, `type`, `expiry`, `perpetual`, `expired`, `enbaled`, `postOnly`, `imfFactor`, `underlyingDescription`, `expiryDescripti`

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`on`, `moveStart`, `positionLimitWeight`, `group`.

TRADES

The `trades` channel provides data on all trades in the market. All messages are updates of new trades (`update`) and the `data` field contains: - `price`: Price of the trade - `size`: Size of the trade - `side`: Side of the taker in the trade - `liquidation`: `true` if the trade involved a liquidation order, else `false` - `time`: Timestamp

ORDERBOOKS

The `orderbook` channel provides data about the orderbook's best 100 orders on either side.

INITIAL SNAPSHOT

Upon subscribing, you will receive one snapshot of the orderbook (`partial`) with a `data` field containing:

- `action`: `partial`
- `bids`
- `asks`
- `checksum`: see below
- `time`: Timestamp

The `bids` and `asks` are formatted like so: `[[best price, size at price], [next next best price, size at price], ...]`

UPDATES

After receiving your snapshot, you will be streamed updates (message `type` is `update`) that have `data` fields with:

- `action`: `update`
- `bids`
- `asks`
- `checksum`: see below
- `time`: Timestamp

The `bids` and `asks` fields contain updates to the orderbook.

- If the bid size at price `5220.5` changed to `20.2`, the `bids` field would be: `[[5220.5, 20.2]]`
- If all asks at price `5223.5` got canceled, the `asks` field would contain: `[[5233.5, 0]]`

CHECKSUM

Every message contains an unsigned 32-bit integer `checksum` of the orderbook. You can run the same `checksum` on your client orderbook state and compare it to `checksum` field. If they are the same, your client's state is correct. If not, you have likely lost or mishandled a packet and should re-subscribe to receive the initial snapshot. The checksum operates on a string that represents the first 100 orders on the orderbook on either side. The format of the string is:

- `<best_bid_price>:<best_bid_size>:<best_ask_price>:<best_ask_size>:<second_best_bid_price>:<second_best_bid_size>:...`

For example, if the orderbook was comprised of the following two bids and asks, the string would be `5000.5:10:5001.0:6:4995.0:5:5002.0:7`:

- bids: `[[5000.5, 10], [4995.0, 5]]`
- asks: `[[5001.0, 6], [5002.0, 7]]`

If there are more orders on one side of the book than the other, then simply omit the information about orders that don't exist: `5000.5:10.0:5001.0:7.5e-07:4995.0:5 .0`:

- bids: `[[5000.5, 10.0], [4995.0, 5.0]]`
- asks: `[[5001.0, 7.5e-5]]`

Rules for float formatting for the checksum:

- Values smaller than 1e-04 (0.0001) should be formatted using scientific notation, and should contain zeroes before the exponent. For example, a message containing `7.5e-5` or `0.000075` should be formatted like so for computing the checksum: `7.5e-05`.
- Values larger than 1e-04 should always contain a decimal and at least one digit after the decimal. For instance, a value of `1.0` must be formatted as `1.0`, not `1`.

The final checksum is the `crc32` value of this string.

GROUPED ORDERBOOKS

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The grouped orderbooks channel supplies orderbook data with grouped (collapsed) prices.

DISCLAIMER

Please note that we do NOT recommend using the grouped orderbooks channel in general: it should only be used for retrieving lower-granularity, possibly higher-depth information about the orderbook.

SUBSCRIBING

To subscribe, send a message specifying market and price grouping: `{'channel': 'orderbookGrouped', 'market': 'BTC-PERP', 'grouping': 500}`. `grouping` controls the granularity of price levels reported by the channel.

MESSAGES

All messages from the `orderbookGrouped` channel contain two fields: `bids` and `asks`. Each are formatted like so: `[[best (grouped) price, size at price], [next next best price, size at price], ...]`.

The first message you are sent will contain a snapshot of the whole orderbook.

Subsequent messages only contain updates. For instance if you received the message: `{'bids': [[9000, 1780.0]], 'asks': []}`, you should interpret that as meaning that since the last update you received, the only thing that has changed is that the total bid size at the 9000 level is now 1780.0.

Note that the price groupings are conservative: with a price grouping of 100, the size for a bid at 9395.5 would be attributed to the 9300 level, and the size for an ask at the same price would be attributed to the 9400 level.

Private Channels

AUTHENTICATION

You can log in by sending a message like so %{code}

```
{
  "args": {
    "key": "<api_key>",
    "sign": "<signature>",
    "time": <ts>
  },
  "op": "login"
}
```

- `key`: your API key
- `time`: integer current timestamp (in milliseconds)
- `sign`: SHA256 HMAC of the following string, using your API secret: `<time>websocket_login`
- `subaccount`: (optional) subaccount name

As an example, if:

- `time`: `1557246346499`
- `secret`: `'Y2QTHI23f23f23jfjas23f23To0RfUwX3H42fvN-'`

`sign` would be `d10b5a67a1a941ae9463a60b285ae845cdeac1b11edc7da9977bef0228b96de9`

One websocket connection may be logged in to at most one user. If the connection is already authenticated, further attempts to log in will result in 400s.

FILLS

You will receive messages like so:

```
{
  "channel": "fills",
  "data": {
    "fee": 78.05799225,
    "feeRate": 0.0014,
    "future": "BTC-PERP",
    "id": 7828307,
```

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```
      "liquidity": "taker",
      "market": "BTC-PERP",
      "orderId": 38065410,
      "tradeId": 19129310,
      "price": 3723.75,
      "side": "buy",
      "size": 14.973,
      "time": "2019-05-07T16:40:58.358438+00:00",
      "type": "order"
    },
    "type": "update"
  }
```

This channel streams your fills across all markets. You can subscribe to it on an authenticated connection by sending `{'op': 'subscribe', 'channel': 'fills'}`.

ORDERS

You will receive messages like so:

```
  {
    "channel": "orders",
    "data": {
      "id": 24852229,
      "clientId": null,
      "market": "XRP-PERP",
      "type": "limit",
      "side": "buy",
      "size": 42353.0,
      "price": 0.2977,
      "reduceOnly": false,
      "ioc": false,
      "postOnly": false,
      "status": "closed",
      "filledSize": 42353.0,
      "remainingSize": 0.0,
      "avgFillPrice": 0.2978,
      "createdAt": "2021-05-02T22:40:07.217963+00:00"
    },
    "type": "update"
  }
```

This channel streams updates to your orders across all markets. You can subscribe to it on an authenticated connection by sending `{'op': 'subscribe', 'channel': 'orders'}`.

FTX PAY

You will receive messages like so:

```
  {
    "channel": "ftxpay",
    "data": {
      "app": app object,
      "payment": payment object,
      "status": "paid"
    },
    "type": "update"
  }
```

This channel streams updates for each completed payment and each returned payment. You can subscribe to it on an authenticated connection by sending `{'op': 'subscribe', 'channel': 'ftxpay'}`.

The app and payment object formats can be seen here.

FIX API

FIX (Financial Information eXchange) is a standard electronic messaging protocol which can be used to place orders, receive order updates and executions, and cancel orders. Our FIX api is based on the FIX 4.2 specification and modeled after FIX implementations of other popular cryptocurrency exchanges.

You can find sample client code here: https://github.com/ftexchange/ftx

FIX endpoint URL: **tcp+ssl://fix.ftx.com:4363**

Clients should connect to the endpoint using SSL.

Sequence numbers are reset for each connection. Resend request and sequence reset messages are not supported.

Messages

```
8=FIX.4.2|9=162|35=A|49=zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx|56=FTX
```

All messages should include the following header:

This documentation uses | to represent the FIX field separator (byte 0x01). It should be replaced by 0x01 in actual messages.

Tag	Name	Example	Description
8	BeginString	FIX.4.2	Must be set to "FIX.4.2"
9	BodyLength	162	Length of the message body in bytes
35	MsgType	8	Message type
49	SenderCompID	zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx	Client API key (for messages from the client)
56	TargetCompID	FTX	Must be set to "FTX" (for messages from the client)

```
34=1|52=20190525-07:17:48
```

Messages should also include a sequence number MsgSeqNum (34) and a timestamp SendingTime (52). Sequence numbers start at 1 and must be incremented with every message. Messages with duplicate or out-of-order sequence numbers will be rejected. Sequence numbers are reset on new connections.

LOGON (A)

Sent by the client to initiate a FIX session. Must be the first message sent after a connection is established. Only one session can be established per connection; additional Logon messages are rejected.

REQUEST

```
8=FIX.4.2|9=162|35=A|49=zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx|56=FTX|34=1|52=20190525-07:51:51|98=0|108=30|96=8f7e7d37f8033ad249c1833687c230b6f4663f0dd72752899776bab9aa064783|10=237|
```

Tag	Name	Example	Description
35	MsgType	A	
98	EncryptMethod	0	Must be set to "0" (None)

Tag	Name	Example	Description
108	HeartBInt	30	Must be set to "30"
96	RawData	8f7e...4783	Signature (see below)
8013	CancelOrdersOnDisconnect	Y	"Y": all account orders will be cancelled at the end of the session. "S": all orders placed during the session will be cancelled at the end of the session. Default: no orders will be cancelled.
1	Account	"my_subaccount"	Optional subaccount name; can be omitted if authenticating for main account

SIGNATURE

```python
from datetime import datetime
import hmac

api_key = 'YOUR_API_KEY'
api_secret = 'YOUR_API_SECRET'

sending_time = datetime.now().strftime('%Y%m%d-%H:%M:%S')

sign_target = '\x01'.join([
    sending_time,  # SendingTime
    'A',  # MsgType
    '1',  # MsgSeqNum
    api_key,  # SenderCompID
    'FTX',  # TargetCompID
])

signature = hmac.new(api_secret.encode(), sign_target.encode(), 'sha256').hexdigest()
```

```javascript
let crypto = require('crypto');

let apiKey = 'YOUR_API_KEY';
let apiSecret = 'YOUR_API_SECRET';

let sendingTime = '20190525-07:51:51';

let signTarget = [
    sendingTime,  // SendingTime
    'A',  // MsgType
    '1',  // MsgSeqNum
    apiKey,  // SenderCompID
    'FTX',  // TargetCompID
].join('\x01');

let hmac = crypto.createHmac('sha256', apiSecret);
let signature = hmac.update(signTarget).digest('hex');
```

For security, the Logon message must be signed by the client. To compute the signature, concatenate the following fields, joined by the FIX field separator (byte 0x01), and compute the SHA256 HMAC using the API secret:

- SendingTime (52)
- MsgType (35)
- MsgSeqNum (34)
- SenderCompID (49)
- TargetCompID (56)

The resulting hash should be hex-encoded.

RESPONSE

8=FIX.4.2|9=98|35=A|49=FTX|56=zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx|34=1|98=0|108=30|52=20190525-07:51:51.838|10=099

Tag	Name	Value
35	MsgType	A
98	EncryptMethod	0
108	HeartBInt	30

HEARTBEAT (0)

Sent by either side if a message has not been received in the past 30 seconds. Should also be sent in response to a TestRequest (1).

8=FIX.4.2|9=86|35=1|49=zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx|56=FTX|34=2|52=20190525-07:52:24.029|10=049|

Tag	Name	Value	Description
35	MsgType	0	
112	TestReqID	123	If this heartbeat is in response to a TestRequest, copied from the TestRequest.

TEST REQUEST (1)

May be sent by either side at any time.

8=FIX.4.2|9=112|35=1|49=zyfvB4QPg0A3kkVgqUE9V1fOA-Y6jhdG3seqIIZx|56=FTX|34=3|112=20190525-08:26:38.989|52=20190525-08:26:38.989|10=140|

Tag	Name	Value	Description
35	MsgType	1	
112	TestReqID	123	Arbitrary string, to be echoed back by a Heartbeat.

LOGOUT (5)

Sent by either side to terminate the session. The other side should respond with another Logout message to acknowledge session termination. The connection will be closed afterwards.

Tag	Name	Value
35	MsgType	5

NEW ORDER SINGLE (D)

Sent by the client to submit a new order. Only limit orders are currently supported by the FIX API.

Tag	Name	Value	Description
35	MsgType	D	
21	HandlInst	1	Must be set to "1" (AutomatedExecutionNoIntervention)
11	ClOrdID	order123	Arbitrary client-selected string to identify the order; must be unique

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Tag	Name	Value	Description
55	Symbol	BTC-PERP	Symbol name
40	OrdType	2	Must be set to "2" (Limit)
38	OrderQty	1.1	Order size in base units
44	Price	8000	Limit price
54	Side	1	"1": buy; "2": sell
59	TimeInForce	1	Must be set to "1" (Good Till Cancel) or "3" (Immediate or Cancel)
18	ExecInst	E	This parameter is optional. "E": reduce only, "6": post only, not supplied: standard
1368	RejectOnPriceBand	'Y'	This parameter is optional. 'Y' for rejecting the order if its price would instead be adjusted due to price bands. 'N' (or omitted) otherwise.
1369	RejectAfterTs	1640080635	This parameter is optional. If the order would be put into the placement queue after this timestamp, instead reject it. If it would be placed on the orderbook after the timestamp, then immediately close it instead (as if it were, for instance, a post-only order that would have taken)

If the order is accepted, an ExecutionReport (8) with `ExecType=A` (Pending New) will be returned. Otherwise, an ExecutionReport with `ExecType=8` (Rejected) will be returned.

ORDER CANCEL REQUEST (F)

Sent by the client to request to cancel an order.

Tag	Name	Value	Description
35	MsgType	F	
37	OrderID	123456	System-assigned order ID of the order
41	OrigClOrdID	order123	Client-assigned order ID of the order

Only one of OrderID (37) and OrigClOrdID (41) should be provided.

If the order is successfully cancelled, an ExecutionReport (8) with `ExecType=6` (Pending Cancel) will be returned. Otherwise, an OrderCancelReject (9) will be returned.

ORDER CANCEL REJECT (9)

Sent by the server to notify the client that an OrderCancelRequest (F) failed.

```
8=FIX.4.2 9=124 35=9 49=FTX 56=**** 34=1294846 52=20210908-07:18:48.023 434=1 102=0 41=cancel123 10=191
```

Tag	Name	Value	Description
35	MsgType	9	
11	ClOrdID	cancel123	Copied from OrderCancelRequest
37	OrderID	123456	Copied from OrderCancelRequest
41	OrigClOrdID	order123	Copied from OrderCancelRequest
39	OrdStatus	4	"4" (Canceled) if the order was already cancelled
102	CxlRejReason	1	"0": order already cancelled, "1": unknown order

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Tag	Name	Value	Description
434	CxlRejResponseTo	1	Always set to "1"

MASS ORDER CANCEL REQUEST (Q)

Sent by the server in response to a Mass Order Cancel Request (q)

Tag	Name	Value	Description
35	MsgType	q	
530	MassCancelRequestType	7	7 for cancelling all orders on all markets, 1 for cancelling all orders on a specific market
11	ClOrdID	order123	optional; client-assigned ID for mass order cancellation request
55	Symbol	BTC-PERP	optional; symbol name. This field is is required if MassCancelRequestType is set to 1, and ignored otherwise

A Mass Order Cancel Report (r) will be returned to the client.

MASS ORDER CANCEL REPORT (R)

Sent by the server in response to a Mass Order Cancel Request (q)

Tag	Name	Value	Description
35	MsgType	r	
530	MassCancelRequestType	7	the MassCancelRequestType of the corresponding Mass Order Cancel Request
11	ClOrdID	order123	optional; the ClOrdID of the corresponding Mass Order Cancel Request. Omitted if no ClOrdID was supplied.
531	MassCancelResponse	0 if the request was rejected, otherwise set to the MassCancelRequestType of the corresponding Mass Order Cancel Request	
532	MssCancelRejectReason	optional; 0 if the market specified in the Mass Order Cancel Request was unknown	

ORDER STATUS REQUEST (H)

Sent by the client to request the status of an order.

Tag	Name	Value	Description
35	MsgType	H	
37	OrderID	123456	OrderID of the order to request, or "*" to request all pending orders
41	OrigClOrdID	order123	Client-assigned order ID of the order
20000	IncludeFillInfo	N	If Y, server will include fill info

The server will respond with an ExecutionReport (8) with `ExecType=I` (OrderStatus) with the requested order or orders. Only one of OrderID (37) and OrigClOrdID (41) should be provided. When there are no open orders, the server will include Text (58) of "No open orders".

Additional fields included with IncludeFillInfo (20000=Y):

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Tag	Name	Value	Description
1362	NoFills	1	Number of fills for this order

The following fields are included zero or more times, once for each fill:

Tag	Name	Value	Description
1363	FillExecID	23436	Fill ID
1364	FillPx	10.1	Fill price
1365	FillQty	6.32	Fill quantity
1366	FillTradeID	101293	Fill trade ID. This will be shared by the fill corresponding to the other side of the trade.
1367	FillTime	20200219-08:33:26.513	Fill time
1443	FillLiquidityInd	2	1 for maker, 2 for taker
20100	FeeRate	0.0007	Fees paid on the fill, in percent
20101	Fee	0.0446824	Fees paid on the fill, in USD

EXECUTION REPORT (8)

Sent by the server whenever an order receives a fill, whenever the status of an order changes, or in response to a NewOrderSingle (D), OrderCancelRequest (F), or OrderStatusRequest (H) message from the client.

```
pending order (order ack):
8=FIX.4.2 9=251 35=8 49=FTX 56=**** 34=1039761 52=20210520-15:23:31.323 150=A 17=0e71c26d-9b3d-42f1-9760-c74a9459a841 37=501249457 11=order123 55=BTC-PERP 38=0.98 44=35593.0 54=2 39=A 14=0 15

new order:
8=FIX.4.2 9=261 35=8 49=FTX 56=**** 34=1063736 52=20210520-12:41:43.416 150=0 17=bbf0ac39-91e4-47bd-aacf-f2ff356c6891 60=20210520-16:46:47.411 37=501249457 11=order123 55=BTC-PERP 38=0.98 44=

fill for order:
8=FIX.4.2 9=272 35=8 49=FTX 56=**** 34=403622 52=20210520-12:41:46.134 150=1 17=370905178 60=20210520-12:41:46.104 37=501249457 11=order123 55=BTC-PERP 38=.7270 44=35593.0 54=2 39=1 14=0.08 1

fully filled/done:
8=FIX.4.2 9=261 35=8 49=FTX 56=**** 34=20 52=20210520-12:41:47.123 150=3 17=c9c8a56e-2159-445e-bb9d-acfeede977b2 60=20210520-12:41:47.112 37=501249457 11=order123 55=BTC-PERP 38=0.98 44=35593

pending cancel:
8=FIX.4.2 9=251 35=8 49=FTX 56=**** 34=1063738 52=20210520-12:41:43.434 150=6 17=5f18f089-a9bc-414a-b0c2-452642e670c7 37=5012978452 11=order456 55=BTC-PERP 38=0.94000000 44=34933.0 54=1 39=6
```

Tag	Name	Value	Description
35	MsgType	8	
11	ClOrdID	order123	Client-selected order ID.
37	OrderID	123456	Server-assigned order ID
17	ExecID	d840c87b-ad98-47b1-95d3-4d41950fa776	unique execution ID. Equal to Fill ID if this message was the result of a fill
55	Symbol	BTC-PERP	Symbol name
54	Side	1	"1": buy; "2": sell
38	OrderQty	1.2	Original order quantity
44	Price	8000	Original order price

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Tag	Name	Value	Description
150	ExecType	1	Reason for this message (see below)
39	OrdStatus	0	Order status (see below)
14	CumQty	0.4	Quantity of order that has already been filled
151	LeavesQty	0.8	Quantity of order that is still open
84	CxlQty	0.0	Quantity cancelled by self-trade prevention. Only present if the cancelled quantity is greater than zero
60	TransactTime	20190525-08:26:38.989	Time of the order update. Only present on order updates
31	LastPx	7999.25	Fill price. Only present if this message was the result of a fill
32	LastQty	0.4	Fill quantity. Only present if this message was the result of a fill
1057	AggressorIndicator	Y	"Y": taker fill; "N": maker fill. Only present if this message was the result of a fill
1366	FillTradeID	101293	Fill trade ID. Only present if this message was the result of a fill
6	AvgPx	7999.25	Average fill price for all fills in order. Only present if this message was the result of a fill
12	Commission	0.0067307233000000	Fee for trade, reported in USD. Only present if this message was the result of a fill
13	CommType	3	Always 3 (absolute)
103	OrdRejReason	3	Reason the order was rejected (see below). Only present on rejected NewOrderSingle (D) requests
58	Text	58	Description of the reason the order was rejected (e.g., Too many requests). Only present on rejected NewOrderSingle (D) requests
5000	Liquidation	58	"Y": messages corresponds to an on-market liquidation order. "N" or absent: it does not.

EXECTYPE VALUES

The ExecType (150) field indicates the reason why this ExecutionReport was sent.

ExecType	Description
0	New order
1	New fill for order
3	Order done (fully filled)
4	Order cancelled
5	Order resized (possible for reduce-only orders)
A	Response to a successful NewOrderSingle (D) request
8	Response to a rejected NewOrderSingle (D) request
6	Response to a successful OrderCancelRequest (F) request
I	Response to a OrderStatusRequest (H) request

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Note that every fill will generate a new `ExecType=1` message. If a fill causes an order to be fully filled, both a `ExecType=1` message and a `ExecType=3` message will be generated. Similarly, a newly placed order that is immediately matched against an opposing order will generate both a `ExecType=0` message and a `ExecType=1` message.

ORDSTATUS VALUES

OrdStatus	Description
A	Pending order
0	New order
1	Partially filled order
3	Fully filled order
4	Cancelled order
5	Resized order
6	Pending cancel

ORDREJREASON VALUES

OrdRejReason	Description
3	Risk limits exceeded
99	Too many requests
0	Other errors

REJECT (3)

Sent by the server in response to an invalid message.

Tag	Name	Value	Description
35	MsgType	3	
45	RefSeqNum	2	Sequence number of the rejected message
371	RefTagID	38	Tag number of the rejected field
372	RefMsgType	D	Message type of the rejected message
58	Text	Missing quantity	Human-readable description of the reason for the rejection
373	SessionRejectReason	1	Code to identify the rejection reason (see below)

REJECTION REASON CODES

SessionRejectReason	Description
1	Required tag missing
5	Value incorrect for this tag
6	Incorrect data format for value
11	Invalid MsgType

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Exhibit N

Historical Data ✏

API

You can get historical OHLC data for all markets on FTX--including futures, perpetuals, spot, and MOVE contracts--using our REST API. You can also find historical trades here. You can get historical index prices here. You can find Leveraged Token rebalances here.

Note that you will have to specify the start and end time of your query. Also note that there is a limit to the number of data points we return per query: if you need more, please paginate.

Website

You can use the TradingView graphs on all trade pages to see historical data.

You can find the expiration prices of futures and MOVE contracts here.

You can find the history of funding rates here.

You can request your historical account snapshots here.

Quant Zone

The FTX Quant Zone can access various types of historical data. For instance you can get historical prices using the function price([product], [minutes back]). See the drop-down menus here for more functions.

Other Sources

MOVE contracts are futures that expire to the amount that BTC moves during a given period. You can find a historical graph of MOVE contracts here.

You can also find FTX graphs on Trading View and Cryptowatch, along with many of our third party integrations.

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Exhibit O

221106880003248

United States Bankruptcy Court, District of Delaware

Check the box to identify the Debtor against whom you assert a claim (select only one Debtor per claim form):

☑ FTX Trading Ltd. (Case No. 22-11068)	☐ Alameda Aus Pty Ltd (Case No. 22-11104)	☐ Alameda Global Services Ltd. (Case No. 22-11134)	☐ Alameda Research (Bahamas) Ltd (Case No. 22-11105)
☐ Alameda Research Holdings Inc. (Case No. 22-11069)	☐ Alameda Research KK (Case No. 22-11106)	☐ Alameda Research LLC (Case No. 22-11066)	☐ Alameda Research Ltd (Case No. 22-11067)
☐ Alameda Research Pte Ltd (Case No. 22-11107)	☐ Alameda Research Yankari Ltd (Case No. 22-11108)	☐ Alameda TR Ltd (Case No. 22-11078)	☐ Alameda TR Systems S. de R. L. (Case No. 22-11109)
☐ Allston Way Ltd (Case No. 22-11079)	☐ Analisya Pte Ltd (Case No. 22-11080)	☐ Atlantis Technology Ltd. (Case No. 22-11081)	☐ Bancroft Way Ltd (Case No. 22-11082)
☐ Blockfolio, Inc. (Case No. 22-11110)	☐ Blue Ridge Ltd (Case No. 22-11083)	☐ Cardinal Ventures Ltd (Case No. 22-11084)	☐ Cedar Bay Ltd (Case No. 22-11085)
☐ Cedar Grove Technology Services, Ltd. (Case No. 22-11162)	☐ Clifton Bay Investments LLC (Case No. 22-11070)	☐ Clifton Bay Investments Ltd (Case No. 22-11111)	☐ Cottonwood Grove Ltd (Case No. 22-11112)
☐ Cottonwood Technologies Ltd (Case No. 22-11136)	☐ Crypto Bahamas LLC (Case No. 22-11113)	☐ DAAG Trading, DMCC (Case No. 22-11163)	☐ Deck Technologies Holdings LLC (Case No. 22-11138)
☐ Deck Technologies Inc. (Case No. 22-11139)	☐ Deep Creek Ltd (Case No. 22-11114)	☐ Digital Custody Inc. (Case No. 22-11115)	☐ Euclid Way Ltd (Case No. 22-11141)
☐ FTX (Gibraltar) Ltd (Case No. 22-11116)	☐ FTX Canada Inc (Case No. 22-11117)	☐ FTX Certificates GmbH (Case No. 22-11164)	☐ FTX Crypto Services Ltd. (Case No. 22-11165)
☐ FTX Digital Assets LLC (Case No. 22-11143)	☐ FTX Digital Holdings (Singapore) Pte Ltd (Case No. 22-11118)	☐ FTX EMEA Ltd. (Case No. 22-11145)	☐ FTX Equity Record Holdings Ltd (Case No. 22-11099)
☐ FTX EU Ltd. (Case No. 22-11166)	☐ FTX Europe AG (Case No. 22-11075)	☐ FTX Exchange FZE (Case No. 22-11100)	☐ FTX Hong Kong Ltd (Case No. 22-11101)
☐ FTX Japan Holdings K.K. (Case No. 22-11074)	☐ FTX Japan K.K. (Case No. 22-11102)	☐ FTX Japan Services KK (Case No. 22-11103)	☐ FTX Lend Inc. (Case No. 22-11167)
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☐ Global Compass Dynamics Ltd. (Case No. 22-11125)	☐ Good Luck Games, LLC (Case No. 22-11174)	☐ Goodman Investments Ltd. (Case No. 22-11126)	☐ Hannam Group Inc (Case No. 22-11175)
☐ Hawaii Digital Assets Inc. (Case No. 22-11127)	☐ Hilltop Technology Services LLC (Case No. 22-11176)	☐ Hive Empire Trading Pty Ltd (Case No. 22-11150)	☐ Innovatia Ltd (Case No. 22-11128)
☐ Island Bay Ventures Inc (Case No. 22-11129)	☐ Killarney Lake Investments Ltd (Case No. 22-11131)	☐ Ledger Holdings Inc. (Case No. 22-11073)	☐ LedgerPrime Bitcoin Yield Enhancement Fund, LLC (Case No. 22-11177)
☐ LedgerPrime Bitcoin Yield Enhancement Master Fund, LP (Case No. 22-11155)	☐ LedgerPrime Digital Asset Opportunities Fund, LLC (Case No. 22-11156)	☐ LedgerPrime Digital Asset Opportunities Master Fund LP (Case No. 22-11157)	☐ LedgerPrime LLC (Case No. 22-11158)
☐ LedgerPrime Ventures, LP (Case No. 22-11159)	☐ Liquid Financial USA Inc. (Case No. 22-11151)	☐ Liquid Securities Singapore Pte Ltd (Case No. 22-11086)	☐ LiquidEX LLC (Case No. 22-11152)
☐ LT Baskets Ltd. (Case No. 22-11077)	☐ Maclaurin Investments Ltd. (Case No. 22-11087)	☐ Mangrove Cay Ltd (Case No. 22-11088)	☐ North Dimension Inc (Case No. 22-11153)
☐ North Dimension Ltd (Case No. 22-11160)	☐ North Wireless Dimension Inc. (Case No. 22-11154)	☐ Paper Bird Inc (Case No. 22-11089)	☐ Pioneer Street Inc. (Case No. 22-11090)
☐ Quoine India Pte Ltd (Case No. 22-11091)	☐ Quoine Pte Ltd (Case No. 22-11161)	☐ Quoine Vietnam Co. Ltd (Case No. 22-11092)	☐ Strategy Ark Collective Ltd. (Case No. 22-11094)
☐ Technology Services Bahamas Limited (Case No. 22-11095)	☐ Verdant Canyon Capital LLC (Case No. 22-11096)	☐ West Innovative Barista Ltd. (Case No. 22-11097)	☐ West Realm Shires Financial Services Inc. (Case No. 22-11072)
☐ West Realm Shires Inc. (Case No. 22-11183)	☐ West Realm Shires Services Inc. (Case No. 22-11071)	☐ Western Concord Enterprises Ltd. (Case No. 22-11098)	☐ Zubr Exchange Ltd (Case No. 22-11132)

Received

JUN 3 0 2023

Kroll Restructuring Administration

☒ Date Stamped Copy Returned
☐ No Self-Addressed Stamped Envelope
☐ No Copy Provided

Modified Form 410   Proof of Claim   page 1 1

Claim Number: 5319

Modified Form 410
Proof of Claim

04/22

Read the instructions before filling out this form. This form is for making a claim for payment in a bankruptcy case. Do not use this form to make a request for payment of an administrative expense, other than a claim entitled to administrative priority pursuant to 11 U.S.C. § 503(b)(9). Make such a request according to 11 U.S.C. § 503.

Filers must leave out or redact information that is entitled to privacy on this form or on any attached documents. Attach redacted copies of any documents that support the claim, such as promissory notes, purchase orders, invoices, itemized statements of running accounts, contracts, judgments, mortgages, and security agreements. Do not send original documents; they may be destroyed after scanning. If the documents are not available, explain in an attachment.

A person who files a fraudulent claim could be fined up to $500,000, imprisoned for up to 5 years, or both. 18 U.S.C. §§ 152, 157, and 3571.

This claim form should not be used to assert claims against Emergent Fidelity Technologies Ltd.

Fill in all the information about the claim as of November 14, 2022 for Debtor West Realm Shires Inc. and as of November 11, 2022 for all other Debtors.

Part 1:   Identify the Claim

1. **Who is the current creditor?**

   Three Arrows Capital Ltd (in liquidation)
   Name of the current creditor (the person or entity to be paid for this claim)

   Other names the creditor used with the debtor _____

   Email(s) the creditor used with the debtor _____

2. **Has this claim been acquired from someone else?**

   ☒ No
   ☐ Yes. From whom? _____

3. **Where should notices and payments to the creditor be sent?**

   Federal Rule of Bankruptcy Procedure (FRBP) 2002(g)

   Where should notices to the creditor be sent?

   c/o Teneo (BVI) Limited

   Banco Popular Building, 3rd Floor, VG-1110

   Road Town, Tortola

   Contact phone _____
   Contact email russell.crumpler@teneo.com

   Where should payments to the creditor be sent? (if different)

   Contact phone _____
   Contact email _____

4. **Does this claim amend one already filed?**

   ☒ No
   ☐ Yes. Claim number on court claims registry (if known)_____   Filed on _____
   MM / DD / YYYY

5. **Do you know if anyone else has filed a proof of claim for this claim?**

   ☒ No
   ☐ Yes. Who made the earlier filing? _____

Part 2:   Give Information About the Claim as of the Date the Case Was Filed

6. **Do you have any number you use to identify the debtor?**

   ☒ No
   ☐ Yes. Last 4 digits of the debtor's account or any number you use to identify the debtor: ____ ____ ____ ____

If filing a claim for cryptocurrency, please fill in 7b.

7a. **How much is the claim?** $ SEE ATTACHED

Does this amount include interest or other charges?
☐ No
☒ Yes. Attach statement itemizing interest, fees, expenses, or other charges required by Bankruptcy Rule 3001(c)(2)(A).

If asserted liability is in a currency other than U.S. dollars or cryptocurrency, provide (i) the currency type _____ ; (ii) the amount in such currency _____ ; and (iii) a conversion rate to U.S. dollars _____ .

7b. **List the number of each type and quantity of each coin owed as of the date the case was filed (November 11, 2022)**

Coin List	Count	Coin List	Count

Modified Form 410   Proof of Claim   page 2 2

8. **What is the basis of the claim?**	Examples: Goods sold, money loaned, lease, services performed, personal injury or wrongful death, or credit card. Attach redacted copies of any documents supporting the claim required by Bankruptcy Rule 3001(c). Limit disclosing information that is entitled to privacy, such as health care information. **SEE ATTACHED**

9. **Is all or part of the claim secured?**	☐ No ☒ Yes. The claim is secured by a lien on property. **Nature of property:** ☐ Real estate. If the claim is secured by the debtor's principal residence, file a *Mortgage Proof of Claim Attachment* (Official Form 410-A) with this *Proof of Claim*. ☐ Motor vehicle ☒ Other. Describe: **SEE ATTACHED** **Basis for perfection:** **SEE ATTACHED** Attach redacted copies of documents, if any, that show evidence of perfection of a security interest (for example, a mortgage, lien, certificate of title, financing statement, or other document that shows the lien has been filed or recorded.) **Value of property:** $ **SEE ATTACHED** **Amount of the claim that is secured:** $ **SEE ATTACHED** **Amount of the claim that is unsecured:** $ **SEE ATTACHED** (The sum of the secured and unsecured amounts should match the amount in line 7.) **Amount necessary to cure any default as of the date of the petition:** $ **SEE ATTACHED** **Annual Interest Rate** (when case was filed)_____% ☐ Fixed ☐ Variable

10. **Is this claim based on a lease?**	☒ No ☐ Yes. **Amount necessary to cure any default as of the date of the petition.** $_____

11. **Is this claim subject to a right of setoff?**	☐ No ☒ Yes. Identify the property: **SEE ATTACHED**

12. **Is all or part of the claim entitled to priority under 11 U.S.C. § 507(a)?** A claim may be partly priority and partly nonpriority. For example, in some categories, the law limits the amount entitled to priority.	☐ No ☒ Yes. *Check one:*	**Amount entitled to priority**
	☐ Domestic support obligations (including alimony and child support) under 11 U.S.C. § 507(a)(1)(A) or (a)(1)(B).	$_____
	☐ Up to $3,350 of deposits toward purchase, lease, or rental of property or services for personal, family, or household use. 11 U.S.C. § 507(a)(7).	$_____
	☐ Wages, salaries, or commissions (up to $15,150) earned within 180 days before the bankruptcy petition is filed or the debtor's business ends, whichever is earlier. 11 U.S.C. § 507(a)(4).	$_____
	☐ Taxes or penalties owed to governmental units. 11 U.S.C. § 507(a)(8).	$_____
	☐ Contributions to an employee benefit plan. 11 U.S.C. § 507(a)(5).	$_____
	☒ Other. Specify subsection of 11 U.S.C. § 507(a)( ) that applies.	SEE ATTACHED (507(a)(2)) $_____

13. **Is all or part of the claim entitled to administrative priority pursuant to 11 U.S.C. § 503(b)(9)?**	☐ No ☒ Yes. Indicate the amount of your claim arising from the value of any goods received by the debtor within 20 days before the date of commencement of the above case(s), in which the goods have been sold to the debtor in the ordinary course of such debtor's business. If claim is for both goods and services, provide your total claim amount (goods & services) in section 7a. and the value of the goods here. Attach documentation supporting such claim. See the instructions below on what further information is required.	$ **SEE ATTACHED**

Part 3:	Sign Below

<table>
<tr>
<td>
The person completing this proof of claim must sign and date it. FRBP 9011(b).

If you file this claim electronically, FRBP 5005(a)(2) authorizes courts to establish local rules specifying what a signature is.

A person who files a fraudulent claim could be fined up to $500,000, imprisoned for up to 5 years, or both. 18 U.S.C. §§ 152, 157, and 3571.
</td>
<td>

Check the appropriate box:

☐ I am the creditor.

☒ I am the creditor's attorney or authorized agent.

☐ I am the trustee, or the debtor, or their authorized agent. Bankruptcy Rule 3004.

☐ I am a guarantor, surety, endorser, or other codebtor. Bankruptcy Rule 3005.

I understand that an authorized signature on this *Proof of Claim* serves as an acknowledgment that when calculating the amount of the claim, the creditor gave the debtor credit for any payments received toward the debt.

I have examined the information in this *Proof of Claim* and have a reasonable belief that the information is true and correct.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on date 06/29/2023
　　　　　　　　　 MM / DD / YYYY

_____
Signature

Print the name of the person who is completing and signing this claim:

Name	Russell Crumpler
	First name　　　　Middle name　　　　Last name
Title	Joint Liquidator of Three Arrows Capital Ltd
Company	Teneo (BVI) Limited
	Identify the corporate servicer as the company if the authorized agent is a servicer.
Address	c/o Teneo (BVI) Limited, Banco Popular Building, 3rd Floor, VG-1110
	Number　　　　Street
	Road Town, Tortola, British Virgin Island
	City　　　　　　　　　　　　　　State　　　ZIP Code
Contact phone	_____　Email russell.crumpler@teneo.com

</td>
</tr>
</table>

UNITED STATES BANKRUPTCY COURT
DISTRICT OF DELAWARE

In re:)   Chapter 11
)
FTX Trading, Ltd, *et al.*,[1]   )   Case No. 22-11068 (JTD)
)
)
                           Debtors.   )   Jointly Administered
)

**ATTACHMENT TO PROOF OF CLAIM FILED BY THE
JOINT LIQUIDATORS OF THREE ARROWS CAPITAL LTD**

This attachment (the "**Attachment**") to this proof of claim (the "**Proof of Claim**") is

hereby filed by Russell Crumpler and Christopher Farmer, in their capacities as the duly authorized

joint liquidators and foreign representatives (the "**Joint Liquidators**") of Three Arrows Capital

Ltd. ("**Three Arrows**"), against each Debtor. This Attachment is an integral part of this Proof of

Claim and is incorporated by reference therein for all purposes.

BACKGROUND

1.   Three Arrows was an investment firm incorporated in the British Virgin Islands

(the "**BVI**") with a focus on trading and investing in cryptocurrency and other digital assets.

2.   Three Arrows's business collapsed during May and June 2022 in the wake of

extreme fluctuations in the cryptocurrency markets. On June 27, 2022, it commenced a liquidation

proceeding (the "**BVI Proceeding**") before the Eastern Caribbean Supreme Court in the High

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[1]   The last four digits of FTX Trading Ltd.'s and Alameda Research LLC's tax identification numbers are 3288 and 4063 respectively. Due to the large number of debtor entities in these Chapter 11 Cases, a complete list of the Debtors and the last four digits of their federal tax identification numbers is not provided herein. A complete list of such information may be obtained on the website of the Debtors' claims and noticing agent at https://restructuring.ra.kroll.com/ftx.

Court of Justice Virgin Islands (Commercial Division), and that court issued an order appointing Russell Crumpler and Christian Farmer as the Joint Liquidators of Three Arrows.

3.   On July 1, 2022, the Joint Liquidators, acting as the foreign representatives of Three Arrows, commenced Chapter 15 proceedings before the United States Bankruptcy Court for the Southern District of New York (*In re Three Arrows Capital Ltd.*, Case No. 22-10920 (Bankr. S.D.N.Y.)), which court granted recognition of Three Arrows' foreign main proceeding pending in the BVI.

4.   Under BVI law, the Joint Liquidators are fiduciaries of the Three Arrows estate created in the BVI Proceeding, with an obligation under BVI law to conduct an orderly, fair liquidation of Three Arrows and to maximize the value of the Three Arrows's assets for the benefit of creditors. In furtherance of those duties, the BVI Order and BVI law empower the Foreign Representatives, *inter alia*, with the sole authority to take possession and control of Three Arrows's assets, carry on Three Arrows's business and manage its affairs, and investigate the causes of Three Arrows's insolvency and any potential causes of action the estate may have.

SUMMARY OF CLAIM

5.   The Joint Liquidators' investigation remains limited by Three Arrows' historically meager record-keeping, which limitation is further exacerbated by the Three Arrows founders' (who maintained day to day control over Three Arrows prior to its collapse) refusal to meaningfully engage or cooperate with the Joint Liquidators in their investigative efforts. Accordingly, the Joint Liquidators' investigation remains an ongoing process. Nevertheless, the Joint Liquidators have to-date identified various claims and causes of action that they believe the Three Arrows estate has against certain Debtors.[2] Accordingly, the Joint Liquidators hereby file

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[2]   As a result of the aforementioned limitations on the Joint Liquidators' investigation efforts, the Joint Liquidators have not yet been able to identify which Debtor entities the Three Arrows estate may have claims

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proofs of claim against each of the Debtors, asserting the claims set out in this Attachment while fully reserving their rights with respect to any additional claims (and/or any additional information relevant to the claims asserted herein) that their ongoing diligent investigation subsequently reveals.

6.   Based on the information that the Joint Liquidators have been able to uncover to-date in their investigation, the Three Arrows estate has certain claims against the Debtors and their non-debtor affiliates (the "**Known Claims**").[3] The Known Claims comprise claims under BVI, New York, Delaware, and other applicable law, including without limitation claims in the nature of preference, conversion, and other avoidance actions, arising from, on information and belief, a purported foreclosure by the Debtors on collateral securing an approximately $120 million purported loan that Three Arrows owed the Debtors as of June 1, 2022.

7.   Three Arrows may have additional causes of action against the Debtors based on conduct, acts, omissions, and transactions between and among Three Arrows, the Debtors, and the Debtors' affiliates (including, without limitation, causes of action arising from the Known Claims as asserted against any of the Debtors, as deemed appropriate by the Joint Liquidators based on their ongoing investigation, and as permitted under applicable law). Any such additional claims remain subject to the Joint Liquidators' ongoing evaluation and investigation. The Joint Liquidators hereby preserve such claims and reserve all rights with respect thereto.

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against. Accordingly, to preserve their rights and claims and those of the Three Arrows estate against the Debtors, the Joint Liquidators have filed proofs of claim against all Debtors in light of the General Non-Customer Bar Date (as defined below).

[3]   All rights are reserved as to the denomination, amount, priority, administrative expense status, security interests, prepetition or postpetition status, and other rights with respect to the claims asserted herein and other claims of the Three Arrows estate, and nothing herein shall be deemed a waiver or admission as to any aspect thereof. For the avoidance of doubt, the Joint Liquidators reserve the right to take the position that some or all of the Known Claims are not prepetition claims as to the Debtors and are filing this Proof of Claim to preserve rights in all circumstances.

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RESERVATION OF RIGHTS

8.   Certain of the Known Claims (and potentially additional claims that the Joint Liquidators uncover in the course of their ongoing investigation) constitute postpetition claims that are not subject to the General Non-Customer Bar Date (as defined in the *Order (I)(A) Establishing Deadlines for Filing Non-Customer and Government Proofs of Claim and Proofs of Interest, and (B) Approving the Form and Manner of Notice Thereof, and (III) Granting Related Relief* [Docket No. 1519]) of June 30, 2023. However, the Joint Liquidators file this Proof of Claim against the Debtors in the abundance of caution and to preserve such claims against any argument that the Known Claims are procedurally barred as a result of the passing of the General Non-Customer Bar Date. The Joint Liquidators' filing of this Proof of Claim is not to be construed as an admission that the Known Claims (or any additional claims that the Joint Liquidators uncover in the course of their ongoing investigation) are prepetition claims for the purposes of the General Claims Bar Date or otherwise.

9.   The Joint Liquidators do not yet have access to all documentation and records relating to the Known Claims or to Three Arrows' relationship with the Debtors, and thus far have been able to identify the Known Claims via limited information available to them. The Joint Liquidators do not have access to sufficient information at this stage to determine whether the Three Arrows estate has any prepetition claims against the Debtors in addition to the Known Claims. The Joint Liquidators' efforts to locate and access such documentation and information remains ongoing. The Joint Liquidators may become aware of additional claims against the Debtors in addition to the Known Claims and reserve their rights to asset such claims by amendment of this Proof of Claim or otherwise. In light of the General Claims Bar Date, the Joint Liquidators file this Proof of Claim against the Debtors in good faith with the information presently available to them to preserve the Known Claims.

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10.   The Joint Liquidators further hereby assert all other claims that Three Arrows or its estate may possess against the Debtors, whether known or unknown, contingent or non-contingent, or otherwise. The Joint Liquidators, on behalf of the Three Arrows' estate, file this Proof of Claim with full reservation of rights, including, without limitation, to right to amend, clarify, or supplement this Proof of Claim at any time (either before or after the General Non-Customer Bar Date), in any manner, and for any reason, including but not limited to, fixing or liquidating any claims of the Three Arrows estate (whether or not expressly described herein), specifying claims for ongoing obligations of the Debtors that are not expressly described herein, pursuing any claims based upon additional or alternative legal theories, or asserting any additional claims, including for secured status or priority (including pursuant to Section 507(c) of the Bankruptcy Code), subrogation (equitable or otherwise), claims for indemnities under any loan documents or other agreements between Three Arrows and any of the Debtors, state, common law, and BVI causes of action, and interest owed on account of any claims included herein or that may be asserted by the Joint Liquidators in the future.

11.   This Proof of Claim is without prejudice to claims, if any, that Three Arrows or its estate has or may have for payment of any additional administrative expenses allowable under section 503(b) of the Bankruptcy Code or otherwise with respect to any transaction, whether or not such amounts are included in this Proof of Claim, and the Joint Liquidators' right to file such claims or any similar claims on behalf of Three Arrows and its estate at an appropriate time is expressly reserved.

12.   The Joint Liquidators, on behalf of the Three Arrows' estate, further reserve all of their rights of setoff, recoupment, bankers' lien, and all similar such rights, as well as any equitable rights, and nothing herein shall be construed as a waiver thereof.

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13.   The Joint Liquidators, on behalf of themselves and the Three Arrows' estate, reserve all of their respective procedural and substantive defenses and rights, including a right to a jury trial, with respect to any claim that may be asserted against them by any of the Debtors, any trustee for the Debtors' estates, any other party in interest in these chapter 11 cases, or any other person or entity whatsoever.

14.   The filing of this Proof of Claim and the assertion of the claims herein are not and shall not be deemed or construed as a consent or admission with respect to the validity or accuracy of any valuation proposed by the Debtors, any affiliate, or any third party. The Joint Liquidators and Three Arrows do not waive or release any rights with respect thereto.

15.   The execution and filing of this Proof of Claim is not (i) a waiver or release of any of the Joint Liquidators' or the Three Arrows' rights against any entity or person liable for all or part of the claims herein, (ii) a consent by the Joint Liquidators or Three Arrows to the jurisdiction of this Court with respect to any proceeding commenced in these chapter 11 cases against or otherwise involving the Joint Liquidators, (iii) a waiver of the Joint Liquidators' or Three Arrows' right to have any and all final orders in any and all non-core matters entered after *de novo* review by a United States District Court judge or their respective right to a trial by jury in any proceeding as to any and all matters so triable, whether designated legal or private rights, or in any case or controversy or proceeding related thereto, notwithstanding the designation of such matters as "core proceedings" pursuant to section 157(b) of the Bankruptcy Code or otherwise, and whether such jury trial is pursuant to statute or the United States Constitution, (iv) a waiver of the right to withdraw the reference with respect to the subject matter of the claims herein, any objection or other proceeding commenced with respect thereto or any other proceeding commenced in this case against or otherwise involving the Joint Liquidators or Three Arrows, (v) an election of remedy or

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choice of law that waives or otherwise affects any other remedy or choice of law, (vi) a waiver or

release of any of the Joint Liquidators' or Three Arrows' rights and remedies under applicable law,

including BVI law, (vii) a waiver of any right of action that the Joint Liquidators or Three Arrows

have or may have against any of the Debtors or any other person or entity, (viii) a waiver or release

of any of the Joint Liquidators' or Three Arrows' rights against any third party, and/or (ix) a waiver

of any right to the subordination, in favor of Three Arrows and its estate, of indebtedness or liens

held by creditors of any of the Debtors.

16.   To the extent that any of the Debtors or any other party takes any action that would

give rise to a counterclaim or other rights or claims that Three Arrows or its estate may have against

any of the Debtors, the Joint Liquidators reserve all of their and Three Arrows' rights.

17.   The Joint Liquidators reserve the right to attach, produce and/or rely upon

additional documentation that supports Three Arrows' and its estate's claims against the Debtors,

and any additional documents that may become available after further investigation or discovery,

or upon request of any of the Debtors. Nothing contained in this Proof of Claim shall limit the

rights of the Joint Liquidators to file papers or pleadings, or commence any proceedings, or take

any actions concerning Three Arrows' and its estate's claims against the Debtors.

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NOTICES

18.   All notices to the Joint Liquidators concerning this Proof of Claim should be sent

to:

c/o Teneo (BVI) Limited
Banco Popular Building, 3rd Floor
Road Town, Tortola, VG-1110
British Virgin Islands
Attn: Russell Crumpler
Email: Russell.crumpler@teneo.com and 3acliquidation@teneo.com

Copies of all notices to the Joint Liquidators concerning this Proof of Claim should be sent to:

LATHAM & WATKINS LLP
Attn: Adam J. Goldberg, Brett Neve, and Nacif Taousse
1271 Avenue of the Americas
New York, NY 10020
Emails: adam.goldberg@lw.com, brett.neve@lw.com, and nacif.taousse@lw.com

19.   The request for copies of notices to be sent to Latham & Watkins LLP will not be

deemed authorization of Latham & Watkins LLP to accept service of process on behalf of the Joint

Liquidators.

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SCHEDULE I

ENCLOSED DOCUMENTS
(Proofs of Claim - case numbers and Debtors noted as follows)

NOTE: Each of the following is printed twice; the first printout is the original to be kept by you, while the trailing printout is the copy to be returned to us, please

	Case Number	Debtor
1.	FTX Trading Ltd.	(Case No. 22-11068)
2.	Alameda Aus Pty Ltd	(Case No. 22-11104)
3.	Alameda Global Services Ltd.	(Case No. 22-11134)
4.	Alameda Research (Bahamas) Ltd	(Case No. 22-11105)
5.	Alameda Research Holdings Inc.	(Case No. 22-11069)
6.	Alameda Research KK	(Case No. 22-11106)
7.	Alameda Research LLC	(Case No. 22-11066)
8.	Alameda Research Ltd	(Case No. 22-11067)
9.	Alameda Research Pte Ltd	(Case No. 22-11107)
10.	Alameda Research Yankari Ltd	(Case No. 22-11108)
11.	Alameda TR Ltd	(Case No. 22-11078)
12.	Alameda TR Systems S. de R. L.	(Case No. 22-11109)
13.	Allston Way Ltd	(Case No. 22-11079)
14.	Analisya Pte Ltd	(Case No. 22-11080)
15.	Atlantis Technology Ltd.	(Case No. 22-11081)
16.	Bancroft Way Ltd	(Case No. 22-11082)
17.	Blockfolio, Inc.	(Case No. 22-11110)
18.	Blue Ridge Ltd	(Case No. 22-11083)
19.	Cardinal Ventures Ltd	(Case No. 22-11084)
20.	Cedar Bay Ltd	(Case No. 22-11085)
21.	Cedar Grove Technology Services, Ltd.	(Case No. 22-11162)
22.	Clifton Bay Investments LLC	(Case No. 22-11070)
23.	Clifton Bay Investments Ltd	(Case No. 22-11111)
24.	Cottonwood Grove Ltd	(Case No. 22-11112)
25.	Cottonwood Technologies Ltd	(Case No. 22-11136)

	Case Number	Debtor
26.	Crypto Bahamas LLC	(Case No. 22-11113)
27.	DAAG Trading, DMCC	(Case No. 22-11163)
28.	Deck Technologies Holdings LLC	(Case No. 22-11138)
29.	Deck Technologies Inc.	(Case No. 22-11139)
30.	Deep Creek Ltd	(Case No. 22-11114)
31.	Digital Custody Inc.	(Case No. 22-11115)
32.	Euclid Way Ltd	(Case No. 22-11141)
33.	FTX (Gibraltar) Ltd	(Case No. 22-11116)
34.	FTX Canada Inc	(Case No. 22-11117)
35.	FTX Certificates GmbH	(Case No. 22-11164)
36.	FTX Crypto Services Ltd.	(Case No. 22-11165)
37.	FTX Digital Assets LLC	(Case No. 22-11143)
38.	FTX Digital Holdings (Singapore) Pte Ltd	(Case No. 22-11118)
39.	FTX EMEA Ltd.	(Case No. 22-11145)
40.	FTX Equity Record Holdings Ltd	(Case No. 22-11099)
41.	FTX EU Ltd.	(Case No. 22-11166)
42.	FTX Europe AG	(Case No. 22-11075)
43.	FTX Exchange FZE	(Case No. 22-11100)
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60.	GG Trading Terminal Ltd	(Case No. 22-11173)
61.	Global Compass Dynamics Ltd.	(Case No. 22-11125)
62.	Good Luck Games, LLC	(Case No. 22-11174)
63.	Goodman Investments Ltd.	(Case No. 22-11126)
64.	Hannam Group Inc	(Case No. 22-11175)
65.	Hawaii Digital Assets Inc.	(Case No. 22-11127)
66.	Hilltop Technology Services LLC	(Case No. 22-11176)
67.	Hive Empire Trading Pty Ltd	(Case No. 22-11150)
68.	Innovatia Ltd	(Case No. 22-11128)
69.	Island Bay Ventures Inc	(Case No. 22-11129)
70.	Killarney Lake Investments Ltd	(Case No. 22-11131)
71.	Ledger Holdings Inc.	(Case No. 22-11073)
72.	LedgerPrime Bitcoin Yield Enhancement Fund, LLC	(Case No. 22-11177)
73.	LedgerPrime Bitcoin Yield Enhancement Master Fund, LP	(Case No. 22-11155)
74.	LedgerPrime Digital Asset Opportunities Fund, LLC	(Case No. 22-11156)
75.	LedgerPrime Digital Asset Opportunities Master Fund LP	(Case No. 22-11157)
76.	LedgerPrime LLC	(Case No. 22-11158)
77.	LedgerPrime Ventures, LP	(Case No. 22-11159)
78.	Liquid Financial USA Inc.	(Case No. 22-11151)
79.	Liquid Securities Singapore Pte Ltd	(Case No. 22-11086)
80.	LiquidEX LLC	(Case No. 22-11152)
81.	LT Baskets Ltd.	(Case No. 22-11077)
82.	Maclaurin Investments Ltd.	(Case No. 22-11087)
83.	Mangrove Cay Ltd	(Case No. 22-11088)
84.	North Dimension Inc	(Case No. 22-11153)
85.	North Dimension Ltd	(Case No. 22-11160)

SCHEDULE I - PAGE 3

15

	Case Number	Debtor
86.	North Wireless Dimension Inc.	(Case No. 22-11154)
87.	Paper Bird Inc	(Case No. 22-11089)
88.	Pioneer Street Inc.	(Case No. 22-11090)
89.	Quoine India Pte Ltd	(Case No. 22-11091)
90.	Quoine Pte Ltd	(Case No. 22-11161)
91.	Quoine Vietnam Co. Ltd	(Case No. 22-11092)
92.	Strategy Ark Collective Ltd.	(Case No. 22-11094)
93.	Technology Services Bahamas Limited	(Case No. 22-11095)
94.	Verdant Canyon Capital LLC	(Case No. 22-11096)
95.	West Innovative Barista Ltd.	(Case No. 22-11097)
96.	West Realm Shires Financial Services Inc.	(Case No. 22-11072)
97.	West Realm Shires Inc.	(Case No. 22-11183)
98.	West Realm Shires Services Inc.	(Case No. 22-11071)
99.	Western Concord Enterprises Ltd.	(Case No. 22-11098)
100.	Zubr Exchange Ltd	(Case No. 22-11132)

SCHEDULE I - PAGE 4

16

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Los Angeles	Tokyo
Madrid	Washington, D.C.

FTX Trading Ltd. Claims Processing Center
c/o Kroll Restructuring Administration LLC
850 3rd Avenue, Suite 412
Brooklyn, NY 11232

June 30, 2023

Via Hand Delivery

Re: 3AC Proofs of Claim (case numbers are detailed on this letter's exhibit pages)

Dear Sirs/Mesdames:

In connection with the matter referenced above please find the documents as detailed on Schedule I attached hereto.

Kindly acknowledge your receipt of the foregoing documents by signing a copy of this letter where indicated and have a pdf copy of same returned to me via email.

Please contact me via email at andy.siegler@lw.com or by phone at 212-906-1279 with any questions in connection with the enclosure, and thank you for your attention to this matter.

Very truly yours,

Andy Siegler,
Paralegal

RECEIVED AND ACKNOWLEDGED
on _____ ___, 2023

By: _____

Name: _____ of FTX Trading Ltd. Claims Processing Center

17

KROLL

Restructuring Administration LLC
(f/k/a Prime Clerk LLC)

Brooklyn

CLAIM/BALLOT HAND DELIVERY
CONFIRMATION SHEET

DATE RECEIVED: _____6/30/23_____

CASE: _____FTX_____

NO. OF CLAIMS: _____100_____

NO. OF BALLOTS: _____0_____

COPIES: _____100 (returned)_____

RECEIVED BY: _____AC_____

Exhibit P

Page 1

1   IN THE UNITED STATES BANKRUPTCY COURT
              FOR THE DISTRICT OF DELAWARE

2

                        Chapter 11

3

             CASE NO.: 22-11068 (JTD)

4

     In re:

5   FTX TRADING LTD., et al.,

6   Debtors.
     _____/

7

8   DEPOSITION OF: RUSSELL CRUMPLER

9   DATE: Monday, November 25, 2024

10   TIME: 9:30 a.m. - 2:45 p.m.

11

        PLACE: HOLLAND & KNIGHT LLP

12   701 Brickell Avenue
                        Suite 3300

13   Miami, Florida 33131

14

15   STENOGRAPHICALLY

        REPORTED BY: VANESSA OBAS, RPR

16

17

18

19

20

21

22

23

24

25

Page 2

1   A P P E A R A N C E S:
2
3

    BRIAN D. GLUECKSTEIN, ESQUIRE
4   OF: SULLIVAN & CROMWELL LLP
         125 Broad Street
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         gluecksteinb@sullcrom.com

6
    -and-
7
8   SIENNA LIU, ESQUIRE
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         APPEARING ON BEHALF OF THE FTX DEBTORS
11
12
    CHRISTOPHER HARRIS, ESQUIRE
13 NACIF TAOUSSE, ESQUIRE
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14   1271 Avenue of the Americas
         New York, New York 10020
15   chris.harris@lw.com
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17 TIFFANY M. IKEDA, ESQUIRE
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19   Los Angeles, California 90071
         tiffany.ikeda@lw.com
20   APPEARING ON BEHALF OF JOINT LIQUIDATORS OF THREE
         ARROWS CAPITAL, LTD. (In Liquidation)
21
22
23 ALSO PRESENT:
         DANIEL BURKITT, ESQUIRE
24   JACOB VERSTEEGH
25

Page 3

1

I N D E X

2

PAGE

3

TESTIMONY OF RUSSELL CRUMPLER

4

DIRECT EXAMINATION BY MR. GLUECKSTEIN   5

5

CERTIFICATE OF OATH OF WITNESS   150

6   REPORTER'S DEPOSITION CERTIFICATE   151

ERRATA SHEET   153

7

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1   E X H I B I T S
2   DESCRIPTION   PAGE
3   Defendants' Exhibit Number 1   Notice of   9
                                   Deposition of
4   the Joint
                                  Liquidators of
5   Three Arrows
                                  Capital, LTD
6   Defendants' Exhibit Number 2   Crumpler   25
                                   Declaration
7   Defendants' Exhibit Number 3   FTX_3AC_   34
                                  000001234-147
8   Defendants' Exhibit Number 4   3AC-FTX-   38
                                  00000145147
9   Defendants' Exhibit Number 5   3AC-FTX-   58
                                  00526884-85
10 Defendants' Exhibit Number 6   3AC-FTX-   71
                                  00526991-966
11 Defendants' Exhibit Number 7   3AC-FTX-   84
                                  00008188-216
12 Defendants' Exhibit Number 8   3AC-FTX-   102
                                  00524000
13 Defendants' Exhibit Number 9   Proof of Claim   118
    Defendants' Exhibit Number 10   3AC-FTX-   137
14   00533487723
15

16

                      S T I P U L A T I O N S
17
18   It is hereby stipulated and agreed by and between
19   the counsel for the respective parties and the deponent
20   that the reading and signing of the deposition
21   transcript be reserved.

22
23
24
25

1   P R O C E E D I N G S

2   *********

3   THE COURT REPORTER: Please raise your right

4   hand.

5   Do you solemnly swear or affirm the testimony

6   that you will give will be the truth, the whole

7   truth, and nothing but the truth?

8   THE WITNESS: I do.

9   THEREUPON

10   RUSSELL CRUMPLER

11   was called as a witness and, having first been duly

12   sworn, testified as follows:

13   THE COURT REPORTER: Thank you.

14   May I have everyone's appearance, please.

15   MR. GLUECKSTEIN: Yes. This is Brian

16   Glueckstein and Sienna Liu of Sullivan & Cromwell

17   with the FTX debtors.

18   MR. HARRIS: And Christopher Harris of Latham

19   for Three Arrows.

20   THE COURT REPORTER: You may proceed.

21   DIRECT EXAMINATION

22   BY MR. GLUECKSTEIN:

23   Q.   Good morning, Mr. Crumpler.

24   A.   Good morning.

25   Q.   Mr. Crumpler, you're aware that you're

Page 6

```
 1   appearing here for this deposition today both in your

 2   personal capacity as a representative on behalf of the

 3   joint liquidators of Three Arrows Capital?

 4       A.    I am.

 5       Q.    And just so that we can have a clear record

 6   today, there's a court reporter.  She'll be taking a

 7   transcript of today's deposition, so please let me

 8   finish my questions before you answer, and I'll try to

 9   let you answer before I proceed.

10             Is that okay?

11       A.    Okay.

12       Q.    If you don't understand a question that I ask

13   or if something is not clear, please ask to clarify.

14   Otherwise, I will assume that you understood the

15   question.

16             Is that clear?

17       A.    No, that's clear.

18       Q.    From time to time, your counsel may interject

19   with objections.  Unless he instructs you not to answer

20   the question, I'll still need you to go ahead and answer

21   the question.

22             Is that understood?

23       A.    That's understood.

24       Q.    If you need a break at any point this morning,

25   just let us know.  I would just ask that you please, if
```

1   there's a question pending, finish the answer to the

2   question before we take a break.

3   A.   Understood.

4   Q.   Mr. Crumpler, is there any reason today that

5   you're aware of that you cannot provide complete and

6   accurate testimony to the questions that we have for you

7   today?

8   A.   No, there is not.

9   Q.   Mr. Crumpler, have you been deposed before?

10   A.   Once before. A long time ago.

11   Q.   When was that approximately?

12   A.   Over ten years ago.

13   Q.   And was that in your capacity as -- in your

14   professional capacity?

15   A.   It was, yes.

16   Q.   Okay. And was that in connection with a

17   restructuring engagement?

18   A.   A liquidation engagement, yes.

19   Q.   Liquidation engagement?

20   And which case was that?

21   A.   That was a cause called British American Isle

22   of Venice Limited.

23   Q.   Have you testified in a court proceeding in

24   your professional capacity?

25   A.   Yes, I have.

1   Q.   Approximately how many times?

2   A.   In the U.S. or in general?

3   Q.   First, in general.

4   A.   At least ten.

5   Q.   And have you testified in a U.S. court in your

6   professional capacity?

7   A.   Yes, I have.

8   Q.   Approximately how many times?

9   A.   Once.

10   Q.   And when was that?

11   A.   That would have been -- I believe that would

12   have been 2014 approximately.

13   Q.   And which engagement was -- did you testify in

14   U.S. court in 2014?

15   A.   That was a Chapter 15 application for two

16   matters of liquidations in the BVI, Creative Finance

17   Limited -- I may not have the exact name -- Creative

18   Finance Limited and I think CAUSMX Limited, which were

19   two related entities.

20   Q.   And do you recall which U.S. court you

21   testified in in those -- in that instance?

22   A.   That would have been the Southern District of

23   New York.

24   MR. GLUECKSTEIN: I'll ask the court reporter

25   to mark this as Exhibit 1.

Page 9

1   (Defendants' Exhibit Number 1, Notice of

2   Deposition of the Joint Liquidators of Three Arrows

3   Capital, LTD, was marked for Identification.)

4   BY MR. GLUECKSTEIN:

5   Q.   If you could take a look at the document that

6   the court reporter's handed you marked Exhibit 1, and

7   let me know if you've seen this before.

8   A.   Yes, I've seen it before.

9   Q.   If you could turn to Page 7 of Exhibit 1,

10   there's a section called Deposition Topics.

11   Do you see that?

12   A.   I do, yes.

13   Q.   And on Pages 7 and 8 of the exhibit, there are

14   14 deposition topics listed there.

15   Do you see those?

16   A.   I do, yes.

17   Q.   And are you prepared to testify today as a

18   representative of the joint liquidators of Three Arrows

19   Capital in each of the 14 topics that are listed on

20   Exhibit 1?

21   MR. HARRIS: Objection.   Just for the record,

22   we submitted responses and objections.

23   So with those incorporated, feel free to

24   answer.

25   THE WITNESS: With those points incorporated,

1   then yes.

2   BY MR. GLUECKSTEIN:

3   Q.   Thank you.

4   Mr. Crumpler, what did you do to prepare for

5   today's deposition?

6   MR. HARRIS: Counsel --

7   Go ahead and answer. This isn't directly about

8   your question.

9   But given that it is both a 30(b)(6) and a

10   personal deposition, I -- is there a particular way

11   you want to handle it, have like a certain portion

12   be the 30(b)(6) and another portion be the personal?

13   Or is there some other way you want to handle it? I

14   just want to make sure the witness understands.

15   MR. GLUECKSTEIN: Understood. I'm going to --

16   BY MR. GLUECKSTEIN:

17   Q.   Just so the record's clear, Mr. Crumpler, I

18   will ask you questions in your -- I'm going to start by

19   asking you questions in your personal capacity. We're

20   going to talk some about the declaration you submitted

21   and your knowledge of the case.

22   If there are questions within those subjects

23   where I'd like you to speak on behalf of Three Arrows

24   Capital, I'll make that clear in my question.

25   A.   Okay.

```
 1              MR. HARRIS:  Do you understand that?

 2              THE WITNESS:  I do understand that, yes.

 3              MR. HARRIS:  Okay.  Thank you.

 4   BY MR. GLUECKSTEIN:

 5       Q.   What did you do to prepare for today's

 6   deposition, Mr. Crumpler?

 7       A.   I reviewed my declaration.  I reviewed the

 8   other documents we have submitted, so the amended proof

 9   of claim.  I met with my lawyers.

10       Q.   Do you recall the documents that you looked at

11   in preparing for today's deposition?

12       A.   I don't certainly recall each and every

13   document that I looked at.  I looked at the documents in

14   support of my declaration, the proof of claim, and the

15   amended proof of claim.

16       Q.   How many times did you meet with your lawyers

17   to prepare for today's deposition?

18       A.   On a number of occasions.

19       Q.   In total, could you estimate how long you spent

20   with your lawyers in preparing for today's deposition?

21       A.   10 or 11 hours.

22       Q.   Did you have any conversations with others on

23   your team, other than your lawyers, with respect to

24   preparation for today's deposition?

25       A.   Yes.
```

1   Q.   And did those conversations occur outside of

2   the presence of your lawyers?

3   A.   Some did.

4   Q.   Who did you speak to without your lawyers

5   present for preparation for today's deposition?

6   A.   My joint liquidator and members of my team.

7   Q.   Can you tell me what topics you discussed with

8   your joint liquidator in preparation for today's

9   deposition?

10   A.   The claims we have against FTX.

11   Q.   Other than the claims against FTX, did you

12   discuss any other topics with your joint liquidator in

13   preparation for today?

14   A.   We discussed the topics contained within my

15   declaration on the proof of claim.

16   Q.   In preparation for today's deposition, did you

17   obtain and review documents from your joint liquidator

18   or members of your team on the topics listed in

19   Exhibit 1?

20   A.   Yes, I did.

21   Q.   Do you know whether those documents have been

22   produced to FTX?

23   A.   To the best of my information and belief, they

24   have.

25   Q.   Did you speak with anybody else, other than

Page 13

1   members of your team at Teneo and your joint liquidator

2   and your counsel, in preparation for today's deposition?

3   A.   No, I did not. To clarify, I obviously mean

4   both my U.S. counsel and my British Virgin Islands

5   counsel.

6   Q.   Did you -- in preparation for testifying as a

7   corporate -- as a representative of the joint

8   liquidators, did you take any notes in preparation for

9   today's deposition?

10   A.   I took notes with respect to how to deal with

11   my testimony at a deposition.

12   Q.   Did you take any other notes with respect to

13   the substance of the topics on which you're testifying

14   about today?

15   A.   I would have made a small number of notes with

16   respect to the points within my declaration.

17   Q.   Did you speak with any representatives of -- of

18   Three Arrows Capital, other than the professionals

19   retained by the liquidator, in preparation for today's

20   deposition?

21   A.   No, I did not.

22   Q.   Mr. Crumpler, can you just provide -- provide

23   me an overview of your professional background?

24   A.   Sure. So I'm an accountant. I'm not a lawyer.

25   That is a difference to the way these things happen in

1   the U.S. compared to Westminster-style jurisdictions.

2   I commenced work in 2000 with KPMG in the UK.

3   I'm trained to be a chartered accountant, which is a

4   formal designation in the United Kingdom. I qualified

5   as a charter accountant in 2003. I did not do that as a

6   degree. My degree was actually in ancient medieval

7   history. 2003, qualified as an accountant, having spent

8   two of those three years in the restructuring team.

9   By "restructuring" -- different people use

10   different terminology. That effectively means,

11   insolvency, work, and restructuring. Predominantly

12   doing insolvency work.

13   In 2004, I relocated with KPMG to the Cayman

14   Islands practice of KPMG, again, to work in their

15   restructuring team. That was early 2004. During that

16   time, I passed my certificate of proficiency of

17   insolvency in 2005 and my joint insolvency examination

18   board exams, which are UK exams, in 2006.

19   Those exams allow you to become, should you

20   choose to become, a licensed insolvency practitioner in

21   the UK. I did not and have never been a licensed

22   insolvency practitioner in the UK. I wasn't that senior

23   within KPMG at the time, but that's the route to be able

24   to do it.

25   At the very end of 2008, I went back to the UK,

Page 15

1   back with KPMG, the end of my sort of somewhat extended

2   schooling. I was supposed to go for two years; I went

3   for five. And moved to KPMG's practice in Leeds, in the

4   North of England. Again there, spent a lot of time

5   doing administrations, which are probably the most akin

6   to Chapter 11 in -- you know, under UK insolvency. BVI

7   is somewhat different.

8   In 2011, I had the opportunity to head up the

9   small advisory team at KPMG in the British Virgin

10   Islands, again, for advisory pleas, predominantly read

11   restructuring and insolvency mandates most of the time.

12   So I moved there in 2011 in about April, so 13 1/2 years

13   ago there or thereabouts, and have effectively led that

14   team ever since.

15   And by that, obviously, you'll see my name is

16   now Teneo BVI Limited. That's what happened in the end

17   of 2022, so actually I think 4th of January of 2022.

18   The KPMG advisory practice in the British Virgin

19   Islands, together with KPMG's practice in the Cayman

20   Islands advisory practice, who were very closely linked

21   historically, moved from Teneo -- I'm sorry, from KPMG

22   to Teneo, where I've been working ever since. But it

23   was one of those, you know, purchases by Teneo of that

24   particular part of the business. I've yet to even

25   change desks. So we're in that process.

1   I should say through that course of my time

2   with KPMG, I was eventually sort of head of our regional

3   restructuring business, which we called the Islands

4   Group. Currently, I am a senior managing director,

5   having been a managing director. We all have different

6   titles in different organizations. But senior managing

7   director for Teneo, which has a sort of a degree of

8   equivalency to being a partner, but we are just

9   structured differently to a partnership.

10   I'm a licensed insolvency practitioner there in

11   the British Virgin Islands, which is a license that's

12   issued by the Financial Services Commission in the BVI,

13   and it is required that anyone who is appointed as a

14   liquidator of a BVI entity either holds that license or

15   merits and oversees appointee, sits along someone who

16   does hold that license, so I've had a license in the BVI

17   for the 13 1/2 years. During that time, I've had a

18   number of sizable mandates, obviously leading up to the

19   Three Arrows engagement. I sat as chair of the

20   Restructuring and Insolvency Services Association and

21   had various roles within the jurisdiction.

22   Q.   Prior to your appointment for Three Arrows,

23   have you been appointed as a liquidator of a BVI entity

24   in the past?

25   A.   Yes, I have.

1   Q.   How many times?

2   A.   Very hard to give a precise number.

3   Q.   Approximately.

4   A.   Approximately in terms of formal liquidations

5   --

6   Q.   Yes.

7   A.   There are two types of liquidations in the BVI.

8   There are involuntary liquidations, which are the

9   liquidations of solvent industries. They are conducted

10 under the Business Companies Act. They can be very

11 straightforward or indeed highly complex. I would say

12 I've had a minimum of 100 of those sorts of

13 appointments.

14   In terms of formal insolvency appointments,

15 predominantly insolvent -- liquidation under the BVI

16 Insolvency Act, I've been also in a number of

17 receiverships, I'm sure either governed by that act or

18 they are in the charge documents, where the conduct of

19 the receiver itself is governed by the act. I would say

20 I'm somewhere north of 50.

21   Q.   And how many -- do you have a sense of how many

22 of your formal insolvency engagements have had an either

23 Chapter 15 or other proceedings in the United States

24 associated with them?

25   A.   I would say eight to ten, without going through

1   each one individually.

2   Q.   And of those eight to ten, you have testified

3   in the two Chapter 15s we talked about earlier?

4   A.   That's correct. I have, in one instance,

5   provided updates to the Court. I don't know -- forgive

6   me. I don't know if that means testifying or not. But

7   when the judge asks you on the spot at an update

8   hearing, then I provided those updates.

9   Q.   When were you appointed as the joint liquidator

10   for Three Arrows Capital?

11   A.   I was appointed on the 27th of June 2022.

12   Q.   And how did you come to be appointed in that

13   role?

14   A.   Quickly. And I may expand upon that. We --

15   the week before, so 27th of June 2022 was a Monday. As

16   it's worth -- it is a slightly unusual way. The

17   appointment happened in a slightly unusual way.

18   So in the buildup in the week before, we were

19   approached by two sets of creditors to Three Arrows

20   looking to appoint provisional liquidators, so in that

21   same role, where someone is appointed effectively to

22   protect the position of the company for the benefits of

23   creditors to see what's going on and to stop anything

24   from happening before, you know, it goes too long.

25   So we were appointed and approached on the

Page 19

1   Thursday evening. We were in the -- both myself and my

2   fellow joint liquidator were in the U.K. at the time, so

3   this is our U.K. times. We were appointed through the

4   course of that Thursday evening and through the night

5   with respect to a couple of creditors about wanting to

6   appoint us, and we consented to act at the end of that

7   process and were expecting a petition, and indeed a

8   petition was presented by one of those creditors, to the

9   BVI court for the appointment of provisional

10 liquidators.

11   Almost simultaneously but fractionally

12 afterwards, which can be important in terms of, you

13 know, priority in the BVI, an application was made by

14 the company itself. So by what we call the founders. I

15 suspect we'll go into why we use the phrase founders at

16 some point. But an application basically by the

17 company's investment manager, head shareholder by its

18 founders, itself to place the company into full

19 liquidation. Normally, an application to place the

20 company into full liquidation has notice periods and has

21 advertising periods.

22   The judge in the BVI heard both applications

23 simultaneously on Monday, the 27th of June, reached the

24 conclusion because there was something in the region of,

25 I believe, 4 to $500 million of total creditors present

1   that the company itself said it had no future and was

2   itself seeking to be placed into liquidation. They

3   reached the conclusion -- the judge reached the

4   conclusion, Justice Jack, I believe, that it would be

5   appropriate to dispense with the normal advertising and

6   notice periods and place the company straight into

7   liquidation.

8   The company itself, for its shareholder, had

9   proposed different liquidators. The judge ultimately

10   said the majority of the external creditors present

11   today at this hearing wanted Mr. Crumpler and Mr. Farmer

12   and, therefore, he ordered that we were appointed as

13   liquidators, not provisional liquidators, on that date.

14   Q.   So Mr. Farmer was selected by the creditors

15   along with you and brought to the Court --

16   A.   Yes. The standard practice is --

17   MR. HARRIS: Remind the witness to suppose and

18   not speak over each other to give our court reporter

19   a chance to --

20   THE WITNESS: My apologies.

21   Could you just repeat the question?

22   BY MR. GLUECKSTEIN:

23   Q.   Yeah. My question, just to repeat it: So was

24   Mr. Farmer selected as the other joint liquidator by the

25   creditors alongside you and proposed at the same time?

1   A.   That -- that's correct.

2   Q.   What is the current status of the -- and if I

3   refer to Three Arrows Capital Limited, the entity for

4   which you were the liquidator, 3AC, will you understand

5   what I'm speaking of?

6   A.   I will, yes. Sorry, not to be interrupting. I

7   apologize. There are lots of different abbreviations

8   within this. If you could clarify, we can work out, you

9   know, our understanding as we go.

10   Q.   I'm going to try -- I will do that. I want to

11   make sure we're talking about the same thing.

12   A.   Yep.

13   Q.   But I'll refer to 3AC as the entity in

14   liquidation if that's okay.

15   A.   That's absolutely fine.

16   Q.   What is the current status of the 3AC

17   liquidation?

18   A.   I think I know what you mean by "status," but

19   can you just explain to me what you mean?

20   Q.   Sure.

21   Where are you in the process and what are you

22   doing in terms of returning value to creditors?

23   A.   We are well-advanced in the process. We have

24   collected in a lot of -- well, the majority of assets

25   which are available to us or taken control of assets

1   available to us -- that should be available to us, the

2   majority of them.

3   We have realized value where we are able to

4   realize value, the assets. Unless you will know a lot

5   of -- you may know a lot of crypto assets are locked

6   via -- via mechanisms in their small contracts, which

7   basically means that whilst we may have control of the

8   assets, we can't necessarily sell the asset. Now, as we

9   are able to sell assets, we are selling. And to the

10   point where now, we have made three separate

11   distributions to creditors.

12   There's clearly a lot more that's going on to

13   get us to that point in time. That is a synopsis of

14   where we are right now.

15   Q.   In your opinion, what is there still to be done

16   going forward with respect to the 3AC liquidation?

17   MR. HARRIS: Object to form.

18   THE WITNESS: There's still a lot to do with

19   respect to the liquidation. We have, as I've

20   already mentioned, a lot of assets to realize as it

21   becomes -- as we are able to realize them.

22   We have a number of assets, which we are

23   seeking to sell, where there is -- you know, there

24   are slightly different assets in equity investment,

25   for example.

Page 23

1   We have a number of creditor claims -- inbound

2   creditor claims to be resolved, a small number now.

3   We have then a series of litigation or

4   pre-litigation steps, discovery steps, etc.,

5   occurring in different jurisdictions, you know,

6   effectively across the world, to seek to either

7   better understand Three Arrows' relationship with --

8   by the third parties or related parties or to seek

9   recoveries from people who have caused wrongdoing --

10   so you may be aware that we have claims against the

11   founders of Three Arrows -- or where we have a

12   number of positions where we are seeking recovery of

13   funds through preference claims and things that are

14   similar to preference claims. And I say that in

15   shorthand.

16   Obviously, you're aware of the proof of claim

17   we have submitted into the FTX bankruptcy

18   proceedings. We have other causes of action, both

19   in the U.S. and elsewhere, which are not dissimilar.

20   BY MR. GLUECKSTEIN:

21   Q.   And do you have a process whereby you evaluate

22   and seek to validate claims that were filed against

23   Three Arrows Capital?

24   A.   Yes. So we call that the claims adjudication

25   process. That's just our terminology. And that process

Page 24

1   is that someone submits a claim. It is a formal -- a

2   form that has to be formally submitted. Forgive me, I

3   forget the exact reference number. I'm having a mental

4   block. But that submits this part of the Three Arrows

5   process of submitting claims.

6   Unlike the U.S. you get that claim in, along

7   with supporting information, and then you work either

8   using the records available to you as the liquidator or

9   with records provided to you by the creditor as to

10 whether or not that claim is admissible in part, in

11 full, or rejected.

12   And so we've had to go for that with each of

13 our creditors.

14   Q.   And you only pay out distributions to claims

15 that you deem to be admissible; correct?

16   A.   That's correct.

17   Q.   Other than -- prior to the Three Arrows

18 engagement, do you have other -- did you have any other

19 experience prior to this in cryptocurrency matters?

20   A.   Prior to this engagement personally?

21   Q.   Personally, yes.

22   A.   No.

23   Q.   Other -- while you've been engaged as joint

24 liquidator for Three Arrows Capital, have you been

25 engaged in other liquidations at the same time?

Page 25

1   A.   Yes, I have.

2   Q.   Have any of those involved cryptocurrency

3   matters?

4   A.   Where I've acted as the liquidator, no. Where

5   I provided advice to people within our organization who

6   are acting as liquidators or in some capacity, then,

7   yes.

8   MR. GLUECKSTEIN: I'll ask the court reporter

9   to mark this document as Exhibit 2.

10   (Defendants' Exhibit Number 2, Crumpler

11   Declaration, was marked for Identification.)

12   BY MR. GLUECKSTEIN:

13   Q.   Mr. Crumpler, the court reporter's handed you a

14   document titled "Declaration of Russel Crumpler in

15   Support of the Motion of the Joint Liquidators of Three

16   Arrows Capital Limited and Liquidation for Leave to

17   Amend Proof of Claim."

18   Do you have that, sir?

19   A.   I do.

20   Q.   All right. Can you identify what this document

21   is?

22   A.   It's my declaration in support of the motion of

23   the joint liquidators of Three Arrows Capital for leave

24   to amend our proof of claim in the FTX bankruptcy.

25   Q.   And did you prepare this declaration marked as

1   Exhibit 2?

2   A.   With the assistance of my lawyers, yes. So the

3   drafting was by my lawyers with my careful review.

4   Q.   And so you agree with everything that's stated

5   in your declaration that's been marked as Exhibit 2?

6   A.   Yes.

7   Q.   Is there anything, as you sit here today, in

8   your declaration that you would change?

9   MR. HARRIS: Object to form.

10   But you can answer.

11   THE WITNESS: So, for example, I wouldn't

12   change it based on the date that the declaration was

13   submitted. But in Paragraph 5, for example, we talk

14   about the value of the assets available to

15   creditors. Obviously, there are huge fluctuations

16   in the cryptocurrency market, so that number has

17   changed somewhat since the 167 million that is

18   stated in Paragraph 5.

19 BY MR. GLUECKSTEIN:

20   Q.   Are there any other modifications from the date

21 of the submission until today that you would identify?

22   A.   I would make the statements in Paragraph 34 a

23 little clearer on the factual basis, specifically with

24 respect to the percentage of AVAX tokens traded.

25   Q.   Can you elaborate on -- on what you're

1   suggesting you would modify in Paragraph 34 of your

2   declaration?

3   A.   So it is possible to read that -- that we are

4   saying that the data provided with respect to the total

5   number of trades and fills for AVAX tokens represented

6   not point -- not 3 percent of the data in the total

7   trades available.

8   What we are saying in that paragraph -- what I

9   am saying in that paragraph is that with respect to AVAX

10   itself, the liquidation events of the 12th to 14th of

11   June, 2022 -- and, sorry, with respect to AVAX and those

12   liquidations events, AVAX, in terms of value, was only

13   not point -- not 3 percent of the liquidation events

14   that occurred over the course of those two days. The

15   trade data provided with respect to AVAX was over a much

16   longer period of time. I think that could have been

17   clearer.

18   Q.   Anything else in your declaration that you

19   would identify as -- that you would modify?

20   A.   Not on the immediate basis of me being asked

21   that question now. That's not a question I prepared

22   for. And, therefore, it might be that over the course

23   of time and over a very detailed review, I might make

24   some small changes. I'm almost certain there will be a

25   typo in there somewhere.

1   Q.   Mr. Crumpler, thank you.

2   If you could turn to Paragraph 8 of your

3   declaration, which appears on Page 3.

4   A.   Paragraph 8 on Page 3?

5   Q.   Are you there?

6   A.   I'm there. I'm just reading it, yes.

7   Q.   Yep.

8   A.   Yep.

9   Q.   You state in the last sentence there, quote "In

10   doing so, we focused on what was known at the time to be

11   the highest-value issues for the 3AC estate," end quote.

12   Do you see that?

13   A.   I do.

14   Q.   In the time period that you're speaking about

15   in Paragraph 8, after -- shortly after your appointment,

16   was FTX considered a high-value issue to you as joint

17   liquidator 3AC?

18   A.   No, it was not.

19   Q.   And why is that?

20   A.   Because at the time, we had no information to

21   suggest the size of the trading relationships -- and I

22   use that term broadly -- as between Three Arrows and --

23   Three Arrows and FTX.

24   So you will see from various bits of

25   correspondence that when we approached FTX, I believe on

1   the 1st of July, we were initially told that there were,

2   I think, $3.4 million of assets in Three Arrows's FTX

3   accounts, and there were no creditor relationships. We

4   were not told about the size of the historic trading

5   relationships.

6   I should say you would also see, and I suspect

7   we will go on to, that we had almost no records and no

8   cooperation from the founders.

9   Q.   If you could look at Paragraph -- if we could

10   jump ahead to Paragraph 28 of your declaration, which

11   appears on Page 11.

12   A.   Yes.

13   Q.   In Paragraph 28, you note that on July 1st,

14   2022, you notified FTX of appointment -- of our

15   appointment as joint liquidators and requested that FTX

16   provide information to assist with the liquidation.

17   Do you see that?

18   A.   I do.

19   Q.   Was that -- that notice was provided in

20   writing?

21   A.   Yes, it was.

22   Q.   And do you have a recollection as to what

23   information you recall seeking on July 1st, 2022?

24   A.   I have a general recollection. That's also

25   been disclosed to FTX in that notice.

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1   Q.   And what's your general recollection?

2   A.   And our request for information wouldn't have

3   anything to do with deposits, withdrawals, the

4   relationship between FTX and Three Arrows.

5   Q.   And --

6   A.   And it is set out in more detail over -- over a

7   number of different line items within that letter.

8   Q.   And continuing in that paragraph, you note in

9   the next sentence that, quote "At our direction, members

10   of the Teneo team had a call with FTX representatives on

11   July 7th, 2022," end quote.

12   Do you see that?

13   A.   I do.

14   Q.   Did you participate in that call?

15   A.   I did not.

16   Q.   Do you know who did participate in that call?

17   A.   My recollection is it was Karthik -- surname

18   Bhavaraju -- Karthik, Christian Fay, and potentially

19   some other people. There is a note of that call in

20   the -- in the disclosures we made to FTX.

21   Q.   And can you describe what you mean by "note of

22   that call"?

23   A.   A short note of what occurred on that call.

24   It's a brief note.

25   Q.   Was this the -- this call on July 7th, was that

1   the first contact for -- I'm sorry, first call that the

2   joint liquidators had with representatives of FTX about

3   3AC?

4   A.   To the best of my knowledge, yes.

5   Q.   Do you recall discussing what had transpired on

6   the call with FTX representatives on July 7th, 2022, on

7   or about the time of the call?

8   A.   Specifically, I don't recall discussing it. My

9   joint liquidator would have done that. But it's

10   important to note that at that time, we had no suspicion

11   as to the size of the FTX relationship.

12   Q.   You referenced a note that was produced with

13   respect to -- to that call. Beyond that note, do you

14   have an understanding -- and now I'm going to ask you as

15   a representative of Three Arrows Capital. Do you have

16   an understanding as to what transpired on the July 7th,

17   2022, call?

18   A.   Based on that note, yes.

19   Q.   Do you have any knowledge of what transpired on

20   the July 7th call other than the note that was reflected

21   from one of your colleagues?

22   A.   No.

23   Q.   Continuing in that paragraph, you write, quote

24   "Over the next week, our team engaged several

25   communications with FTX in an effort to gain access to

1   the 3AC Debtor's accounts, including all associated

2   subaccounts in the FTX platform and to seek to obtain

3   all transactional records associated with the 3AC

4   Debtors' accounts on the FTX platform," end quote.

5   That's -- that's your understanding of the

6   situation as you've submitted in your declaration;

7   correct?

8   A.   That's correct --

9   MR. HARRIS: Brian, are you --

10   THE WITNESS: I'm sorry.

11   MR. HARRIS: I just want to make sure if you're

12   asking the personal as to 30(b)(6) because you had

13   switched to ask questions --

14   BY MR. GLUECKSTEIN:

15   Q.   I'm asking you now -- I'm asking what you know.

16   Yourself.

17   MR. HARRIS: Back to personal. Okay.

18   THE WITNESS: That's my understanding, yes.

19   BY MR. GLUECKSTEIN:

20   Q.   The communications that you referenced in

21   Paragraph 28, were those communications in writing?

22   A.   My understanding is that where those

23   communications were in writing, they've been disclosed.

24   And by "writing" I will predominantly mean e-mail, if

25   not entirely mean e-mail.

1   Q.   Are you aware of any calls, other than the

2   July 7th, 2022, call, with representatives of FTX

3   regarding 3AC's account?

4   MR. HARRIS: Objection. Vague.

5   THE WITNESS: I'm not immediately aware of any

6   other calls. Certainly not any calls of substance.

7   So if there were calls -- and that is speculation on

8   my part -- that would have been with respect to

9   gaining access to the accounts.

10 BY MR. GLUECKSTEIN:

11   Q.   Okay. Then, I will ask you this question in

12 your capacity as a representative of the joint

13 liquidators.

14   Did Three Arrows Capital representatives engage

15 in any other calls with FTX representatives after

16 July 7th, 2022, prior to FTX filing for bankruptcy on

17 November 11th, 2022?

18   A.   The only calls I'm aware of are those stated in

19 my declaration and now proof of claim, and I have the

20 documents submitted.

21   Q.   Paragraph 28, in that last sentence that I just

22 referenced, you wrote you "seek to obtain all

23 transactional records associated with the 3AC Debtor

24 accounts."

25   What do you mean by "all transactional records"

1   in that statement?

2   A.   I mean the data that was eventually provided to

3   us in December 2023.

4   (Defendants' Exhibit Number 3,

5   FTX_3AC_000001234-147, was marked for

6   Identification.)

7   MR. GLUECKSTEIN: I'll ask the court reporter

8   to mark this document, which has an FTX 3AC Bates

9   number ending in 1234, as Exhibit 3.

10   MR. HARRIS: Thank you.

11   THE WITNESS: Okay.

12   BY MR. GLUECKSTEIN:

13   Q.   Mr. Crumpler, so this is an e-mail chain. The

14   most recent chain at the top is an e-mail from

15   ashleybethel@ftxdigitalmarkets.com, dated July 14th,

16   2022.

17   Have you ever seen this e-mail chain before?

18   A.   I have, yes.

19   Q.   Did you review this e-mail chain in preparation

20   for your deposition today?

21   A.   I did, yes.

22   Q.   Do you recall this e-mail chain -- reviewing

23   this e-mail chain prior to preparation for your

24   deposition today?

25   A.   Yes.

1   Q.   Do you recall receiving this e-mail on

2   December -- I'm sorry -- on July 14th, 2022?

3   A.   I did not receive this e-mail on that date.

4   I'm not -- I'm not one of the listed addressees or cc's.

5   Q.   So one of the cc's on this e-mail chain is an

6   e-mail alias, 3acliquidation@teneo.com.

7   Do you see that in the cc line next to

8   Mr. Farmer's e-mail address?

9   A.   I do.

10   Q.   Would you be a member of that distribution

11   list?

12   A.   I'm not a member of that list. That's a

13   centralized e-mail, which members of our team have

14   access to and review, as opposed to an e-mail that sends

15   e-mails out to -- it's not a distribution list e-mail,

16   if that makes sense.

17   Q.   Okay. So this is not -- so you would not have

18   received this e-mail on account of -- of being a member

19   of that e-mail alias; correct?

20   A.   No.

21   Q.   When prior to preparation for your deposition

22   today do you recall seeing this e-mail chain?

23   A.   I recall seeing this e-mail chain in

24   preparation for preparing my declaration and the amended

25   proof of claim.

1   Q.   Did you discuss this e-mail chain with

2   Mr. Farmer or anybody else on your team at Teneo prior

3   to today's deposition?

4   A.   I don't recall if I discussed this specific

5   e-mail chain.

6   Q.   I think you testified that you reviewed this

7   e-mail chain in preparation for your declaration;

8   correct?

9   A.   That's correct.

10   Q.   So did this e-mail chain help inform the

11   statements in your declaration that you submitted to the

12   Court?

13   A.   Yes, it does.

14   Q.   If you turn to the page that has a Bates number

15   on the bottom right ending in 1242 -- it's the first

16   e-mail in the chain.

17   A.   Sorry. 1242?

18   Q.   42, yes.

19   A.   Yes, I have that in front of me.

20   Q.   Okay. There's an e-mail there, it looks like,

21   from Mr. Bickley-May. Nathan Bickley-May.

22   Who's Mr. May?

23   A.   He's another member of the Teneo team that

24   was -- has been utilized at various points on the Three

25   Arrows liquidation.

1   Q.   Does Mr. Bickley-May work at your direction?

2   A.   With respect to Three Arrows, then, yes, he

3   does -- or did.

4   Q.   Is he no longer part of the Three Arrows team?

5   A.   He has a limited role with respect to the Three

6   Arrows team but not related to the FTX matters.

7   Q.   That e-mail, on July 1st, Mr. Bickley-May

8   writes "Please see the attached letter for your

9   attention."

10   Do you see that there?

11   A.   Sorry. I'm looking at 1242, which is an e-mail

12   on July the 6th.

13   Q.   Below that. Halfway down the page. This is on

14   July 1.

15   A.   Oh, I apologize. I do. I see what you -- I

16   see it, yes.

17   Q.   It says "Dear, sirs. Please see the attached

18   letter for your attention."

19   Do you see that there?

20   A.   I do, yes.

21   Q.   Is this the initial contact that's referenced

22   in Paragraph 28 of your declaration where you notified

23   FTX of your appointment?

24   A.   Yes, it is.

25   (Defendants' Exhibit Number 4,

1   3AC-FTX-00000145147, was marked for Identification.)

2   MR. GLUECKSTEIN: I'll ask the court reporter

3   to mark this as Exhibit 4, please.

4   THE WITNESS: Okay.

5   BY MR. GLUECKSTEIN:

6   Q.   Do you recognize this letter, Mr. Crumpler?

7   A.   I do.

8   Q.   And what is this letter?

9   A.   This is a letter in a standardized form

10 addressed to FTX requesting information with respect to

11 the company, 3AC, and its relationship with FTX.

12   Q.   When you write in your declaration in

13 Paragraph 28 that 3AC Debtor -- that the joint

14 liquidators requested FTX provide information, is the

15 information listed, Information Request Items 1 through

16 10 in this letter, the scope of that request?

17   A.   As of the date of this letter, then, yes. You

18 will see in the -- in your Exhibit 3, further

19 clarifications and requests for information.

20   Q.   Understood.

21   But I'm focused right on --

22   A.   Of course.

23   Q.   -- Paragraph 28 where you said you requested

24 that FTX provide information.

25   This is the information as reflected in this

1   letter that you requested at that time; correct?

2   A.   Yes.

3   Q.   This letter is dated July 1st, 2022. That was

4   four days after you were appointed in the BVI

5   proceedings; is that right?

6   A.   That's correct.

7   Q.   And that's the same day, July 1st, 2022, that

8   you commenced proceedings -- Chapter 15 proceedings in

9   the Southern District of New York in the United States;

10   correct?

11   A.   Yes. I believe that's -- I'm 95 percent

12   certain that's the correct date, but I'm sure it's

13   reflected in my -- in the information before me.

14   Q.   What's your understanding of what led your team

15   to reach out to FTX on July 1st, four days after your

16   appointment?

17   A.   We reached out to a broad number of exchanges.

18   Obviously, FTX is one of the largest -- if not the

19   largest. And I say "exchange" in the colloquial

20   terms -- one of the largest exchanges in the world.

21   It's clearly someone who we would reach out to given

22   that Three Arrows was probably the predominant hedge

23   fund in the cryptocurrency space.

24   There were also some indications in the

25   cryptocurrency press that there was a relationship

1   between FTX Three Arrows.

2   This was a num- -- one of many letters sent out

3   to a variety of different exchanges.

4   Q.   Okay. In this letter, I want to focus on

5   Exhibit 4, in the July 1st letter when you reached out

6   to FTX. You ask in Item 6 for "an asset statement or

7   activity summary as of the close of business on the date

8   prior to our appointment on 27 June 2022."

9   Do you see that there?

10   A.   I do.

11   Q.   There was no request for earlier asset

12   statements at the time of this letter; correct?

13   A.   No. But by activity summary -- we're not

14   implying activity on that day.

15   Q.   What's your understanding of what you intended

16   to convey with activity summary in Item 6 of this

17   letter?

18   A.   The summary of activity as between FTX and 3AC.

19   Q.   For what period of time?

20   A.   A period of time going back a reasonable

21   pace -- a reasonable period backwards in time.

22   Q.   In Item 10 on this list, you include there

23   "Relevant details of all liquidated positions within the

24   last 60 days."

25   Do you see that?

1   A.   I do.

2   Q.   Was there any request in this letter for any

3   information with respect to liquidated positions prior

4   to the -- the 60 days -- the 60-day period?

5   A.   In this letter, no. Obviously, the

6   liquidations that it turns out we were focused on, or

7   should have been focused on if we had known about them,

8   all occurred within -- well within that 60-day period.

9   Q.   Okay. If you can turn back to the e-mail chain

10   we were looking at that this letter was attached to.

11   A.   Of course.

12   Q.   And if you could look at the page with the

13   Bates right -- the number on the bottom right, ending in

14   1237.

15   There's an e-mail about halfway down the page,

16   July 12, 2022, from Christian Fay.

17   Do you see that?

18   A.   Yep, I do.

19   Q.   Who's Mr. Fay?

20   A.   Mr. Fay is a -- now a -- Mr. Fay is a member of

21   the Teneo team. He worked for me. We were in the

22   British Virgin Islands as part of Teneo. At this time,

23   he was a consultant and subsequently became a senior

24   consultant. He's currently working for Teneo but in the

25   New York office.

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1   Q.   At the time Mr. Fay sent this e-mail, was he

2   working at the direction of yourself and your

3   coliquidator?

4   A.   Yes, he was.

5   Q.   In this e-mail on July 12th, Mr. Fay writes in

6   part -- you see this in the -- in the third paragraph

7   down, he asks "Could you please provide us with an asset

8   statement as at today's date and a full trading history

9   for the account as well as subaccounts for the past

10   90 days."

11   Do you see that?

12   A.   I do, yes.

13   MR. HARRIS: Just for the record, is it any

14   subaccounts? In your recitation, you didn't have

15   that word.

16   THE WITNESS: The "any" is actually quite

17   important in the context of what we were actually

18   provided.

19   MR. GLUECKSTEIN: I thought I did. Well, there

20   is -- let me rephrase it because I want the record

21   to be clear.

22   BY MR. GLUECKSTEIN:

23   Q.   He writes in the e-mail "Could you please

24   provide us with an asset statement as at today's date

25   and a full trading history for the account as well as

1   any subaccounts for the past 90 days."

2   Do you see that there?

3   A.   I do.

4   Q.   What's -- what did -- what is your

5   understanding of what "asset statement as at today's

6   date" was intended to convey?

7   A.   The position with respect to assets held by FTX

8   for the benefit of Three Arrows at that date.

9   Q.   Okay. And --

10   A.   So the date being the 12th of July.

11   Q.   And then there's a request for a full trading

12   history for the account as well as any subaccounts for

13   the past 90 days; correct?

14   A.   Yes.

15   Q.   And as you pointed out, the 90 days would

16   certainly include June of 2022; correct?

17   A.   That is correct.

18   Q.   He ends -- at the end of that paragraph,

19   Mr. Fay writes "We also await the same information for

20   the TPS Capital account that we discussed with you on

21   the call."

22   What's your understanding of what's being

23   referenced there?

24   A.   So TPS is a Cayman Islands entity and that's

25   short form for Tai Ping Shan -- I may well have that

1   pronunciation wrong, so my apologies -- Limited.

2   So Tai Ping Shan Limited, which is a Cayman

3   Islands entity that was set up by essentially the same

4   group of people to act -- we understand to act as an ATC

5   broker for Three Arrows, and that was its initial

6   purpose. We understand the intention was that over time

7   it would also become an external OTC broker for other

8   parties.

9   Q.   Was the TPS Capital accounts within the scope

10   of your mandate as liquidator of 3AC?

11   A.   They were certainly within the scope of our

12   interest.

13   Q.   If we move a little further up the chain on the

14   page ending -- the prior page, 1236 --

15   A.   Okay.

16   Q.   -- Ms. Bethel writes at the top, on July 13th,

17   that they're in the process of disabling credentials

18   with the reference clients account on our platform, and

19   she goes on to talk about giving access to yourself and

20   Mr. Farmer.

21   Do you see that?

22   A.   I do.

23   Q.   Did you personally get access to the 3AC

24   account at any point?

25   A.   If I did, I do not recall.

1   Q.   Did you, in your capacity as a joint liquidator

2   of 3AC, ever access the 3AC/FTX account?

3   A.   No.

4   Q.   Did Mr. Farmer receive access to the 3AC/FTX

5   account?

6   A.   I know that Mr. Farmer was able to have access

7   when it was granted to us as 3AC. Whether it was a

8   general access or an access for him specifically, I'm

9   not aware.

10   Q.   So the joint liquidators did get access to the

11   3AC/FTX account; correct?

12   A.   That's correct.

13   Q.   If we could just go up to the first page of

14   this where we started on this e-mail chain.

15   A.   So the Bates 1234?

16   Q.   1234 at that top e-mail on July 14th where

17   Ms. Bethel writes "As requested, please find attached

18   the deposit, withdrawal, and transaction history of

19   Three Arrows Capital. Kindly note that the client had a

20   main account and various subaccounts."

21   Do you see that?

22   A.   I do.

23   Q.   Is this -- you write -- if we can just look

24   back at your declaration while -- while we review that,

25   Paragraph 29.

1   A.   Uh-huh.

2   Q.   And the first paragraph -- first sentence in

3   Paragraph 29 of your declaration.

4   A.   Yep.

5   Q.   Is the information referenced in the first

6   sentence of your declaration what was conveyed via this

7   e-mail and attachments?

8   A.   It is, yes.

9   Q.   Did you -- at the time you received the

10   information -- the time the joint liquidators received

11   the information from FTX on July 14th, did you raise any

12   concerns to FTX about the scope of the data you had been

13   provided?

14   MR. HARRIS: Object to the form.

15   And, just for the record, the exhibit that was

16   handed out does not have the attachments with the

17   data referenced.

18   BY MR. GLUECKSTEIN:

19   Q.   Mr. Crumpler, the e-mail references, I think

20   it's 44 attachments to this e-mail in the attachment

21   reference.

22   Do you see that there? This is Exhibit 3, I

23   believe.

24   A.   I'm not going to count the attachments.

25   Q.   Do you see --

1   A.   But if you say there are 44, I will take your

2 word for it that there are 44.

3   Q.   I think you just testified that the attachments

4 to this e-mail was the information that's referenced in

5 Paragraph 29 of your declaration; correct?

6   A.   At the beginning of Paragraph 29, then, yes,

7 that's correct.

8   Q.   Are you familiar with the data that was

9 provided in the July 14th e-mail from FTX?

10   A.   Yes, I am.

11   Q.   And what did that data include -- is your

12 understanding of what that data included?

13   A.   So my un- --

14   MR. HARRIS: Object to the form.

15   Go ahead.

16   THE WITNESS: Okay.

17   My understanding of that data, which is

18   reflected in my declaration, is that data provided

19   us with a limited amount of transactional data

20   relating to 12 subaccounts and the main account of

21   3AC's relationship with FTX. It excluded the main

22   subaccounts and was clearly hugely deficient in

23   terms of the volume of data that represents the

24   actual trading history between Three Arrows and FTX.

25   And I should say that the people providing us

1   with that data -- and I speculate -- had to have

2   known the volume of trading that happened between

3   the two -- the two parties.

4   BY MR. GLUECKSTEIN:

5   Q.   So it's your testimony that FTX intentionally

6   excluded data from the dataset that was provided to you

7   on July 14th?

8   MR. HARRIS: Objection. Vague.

9   THE WITNESS: My testimony is it's my belief

10   that FTX had to have been aware that the scope --

11   the range in transactional data was much broader

12   than was provided to us.

13   BY MR. GLUECKSTEIN:

14   Q.   And what's that belief based on?

15   A.   The shear size of the transactional data that

16   was eventually provided to us in December -- 14th of

17   December 2023, which was millions of line items versus

18   several thousand.

19   Q.   Okay. So I will go back to my prior question

20   and again ask at the time that this information was

21   received from FTX on July 14th, 2022, did the joint

22   liquidators express any concern about the data that had

23   been received to FTX?

24   A.   During the course of that summer. Then we

25   continued to request how we could obtain further records

1   from them -- from FTX.

2   MR. HARRIS: Whatever you're at a good spot.

3   We've been going over an hour.

4   MR. GLUECKSTEIN: We can take a five-minute

5   break, if you'd like.

6   MR. HARRIS: Sure.

7   MR. GLUECKSTEIN: You want to do that now?

8   That's fine.

9   (Thereupon, a recess was taken, after which the

10   proceedings continued as follows:)

11   BY MR. GLUECKSTEIN:

12   Q.   Mr. Crumpler, can you -- when we took a break,

13   we were still looking at your declaration.

14   Can you take a look at Paragraph 31 of your

15   declaration.

16   A.   31?

17   Q.   It's on Page 12.

18   A.   Okay.

19   Q.   You state in Paragraph 31 that the joint

20   liquidators, on July 19th, gained read-only access, and

21   then on July 26th, 2022, gained full access to 3AC

22   Debtor accounts on the FTX platform; is that right?

23   A.   That's correct.

24   Q.   And you testified earlier that you yourself did

25   not log into that account; correct?

1   A.   That's correct.

2   Q.   Okay. Who on your team did access the 3AC

3 Debtor accounts in the FTX platform?

4   A.   To the best of my knowledge, Christopher Farmer

5 and I suspect Christian Fay. Others may have been

6 logging on or using -- reviewing the data that was, you

7 know, on that account. But I don't know exactly who did

8 at which times.

9   Q.   You write in Paragraph 31 that you were only

10 able to download a high-level summary of withdrawal and

11 deposit details dating back to May of 2022; correct?

12   A.   That's correct.

13   Q.   And then you also state that you were unable to

14 download the full trading history for the accounts due

15 to the shear volume of the data; correct?

16   A.   That's correct.

17   Q.   So it's your understanding that the information

18 that was accessible by your team on the -- of the 3AC

19 Debtor account included the June 2022 time period;

20 correct?

21   MR. HARRIS: Object to form.

22   THE WITNESS: We were -- my understanding was

23   that the information available to us on the FTX

24   platform was not sufficient for us to be able to

25   identify or see what happened in June 2022.

1   BY MR. GLUECKSTEIN:

2   Q.   Okay.   And what is that understanding based on

3   if you didn't review the information -- if you didn't

4   access the account yourself?

5   A.   The knowledge of my joint liquidator and the --

6   and my team.

7   Q.   You state in Paragraph 31 that you were able to

8   download a high-level summary of withdrawal and deposit

9   details dating back to May 22nd, 2022, and May 11th,

10   2022.

11   A.   Uh-huh.

12   Q.   Correct?

13   A.   Correct.

14   Q.   And notwithstanding that, you're saying you

15   could not view withdrawal and deposit information in

16   June of 2022?

17   MR. HARRIS: Object to the form.

18   THE WITNESS: What we can see is withdrawals

19   from the FTX in that environment and deposits into

20   the FTX environment.   That does not mean we could

21   see the trading history within that environment.

22   BY MR. GLUECKSTEIN:

23   Q.   Okay.   But you did have access to all

24   withdrawal and deposit detail for June of 2022 once you

25   accessed the account; correct?

1   A.   Correct.

2   Q.   You say you were unable to download the full

3   trading history due to the shear volume of data; right?

4   A.   Correct.

5   Q.   But that information was accessible on the FTX

6   account at the time you accessed it; correct?

7   MR. HARRIS: Object to the form.

8   THE WITNESS: We had -- we had access -- we had

9   access to transactional records.   We had no way of

10   knowing if those transactional records were

11   complete.   And, indeed, when we were provided with

12   further records through this time period, the time

13   period before FTX's own bankruptcy, those records

14   were incomplete.

15   BY MR. GLUECKSTEIN:

16   Q.   But did you do anything to assess the

17   completeness of the trading history from the data that

18   was available on the 3AC account if you couldn't

19   download it?

20   A.   We asked for a download of that data -- of the

21   relevant data.   And you will see in Paragraph 32 -- so I

22   should say with respect to Paragraph 31 of my

23   declaration, you'll see that we were provided what we

24   understood at the time -- and it isn't for us to know

25   what we don't know.

1   But we were provided on the 16th of September

2   with what was represented to be a full withdrawal,

3   deposit, and transfer history.

4   Q.   Okay. My question's a little bit different.

5   Did joint liquidators or anybody on your team

6   do anything to assess the trading data that was

7   available through the FTX account that you were given

8   access to?

9   MR. HARRIS: Objection. Asked and answered.

10   THE WITNESS: I'll refer to my previous answers

11   and what's in the declaration.

12   The information available on the account was

13   not sufficient for us to understand or assess the

14   full trading history as between Three Arrows and

15   FTX.

16   BY MR. GLUECKSTEIN:

17   Q.   And that was -- that was due to the volume of

18   the data?

19   A.   That was due to the completeness of the data

20   and what I assume is the volume. As I say, I did not go

21   into it.

22   Q.   Can you please describe for me how the joint

23   liquidators assessed the completeness of the volume --

24   the completeness of the data that was accessible on the

25   FTX account if you didn't analyze that data yourself?

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 1              MR. HARRIS:  Objection.  Asked and answered.

 2              THE WITNESS:  You will see we kept asking for

 3        additional information from FTX.

 4   BY MR. GLUECKSTEIN:

 5        Q.   So other than asking FTX for additional

 6   information --

 7        A.   Uh-huh.

 8        Q.   The joint liquidators did not perform any

 9   analysis on the data that was accessible on the FTX

10   account?

11        A.   That's not what I said.

12             I said that the analysis we were able to

13   perform on that data did not provide us with a full

14   history or understanding of the trading -- the trading

15   relationship between FTX and Three Arrows.

16        Q.   Okay.  All I'm trying to understand because I

17   want to -- I think we're -- I want to make sure we're

18   not conflating issues.

19             I understand that FTX provided you information

20   in response to follow-up requests.

21        A.   Uh-huh.

22        Q.   That's referenced in the declaration; correct.

23        A.   Yes.

24             MR. HARRIS:  Just remind the witness to pause

25        because you're starting to talk over each other.
```

1   BY MR. GLUECKSTEIN:

2   Q.   Aside from the information that was provided to

3   you, you had access to the account itself; correct?

4   A.   Correct.

5   Q.   And all I'm trying to understand is what your

6   team did to analyze the trading history data that was

7   accessible through that account?

8   MR. HARRIS: Objection.   Asked and answered.

9   THE WITNESS: My team worked through the

10   information available on that account and were able

11   to -- were not able, based on that information, to

12   reach the conclusions reached when we were provided

13   with a full transaction history on the 14th of

14   December and thereafter or, indeed, the conclusions

15   that FTX itself reached in October of 2023.

16   BY MR. GLUECKSTEIN:

17   Q.   Did you attempt to -- what did you do to

18   attempt to download the full trading history that was

19   available through the FTX account?

20   MR. HARRIS: Objection.   Assumes facts not in

21   evidence.

22   BY MR. GLUECKSTEIN:

23   Q.   Well, did you attempt to download the full

24   trading history for the 3AC Debtor's accounts on the FTX

25   account?

1   A.   I'd refer to the statement in my declaration.

2   We were also unable to download the full

3   trading history.

4   Q.   So did you try to do so?

5   A.   That statement says that we did, yes.

6   Q.   Your testimony is notwithstanding your stated

7   inability to download the full trading history, you

8   performed some type of analysis on that history?

9   A.   Yes.

10   Q.   And what type of analysis did you perform on

11   that trading history that existed on the FTX platform?

12   A.   An analysis to try and understand the trades as

13   between FTX and Three Arrows.

14   Q.   And what form did that analysis take?

15   A.   I'm -- I'm sorry. I don't fully understand

16   that question.

17   Q.   Was there -- was there a report of that

18   analysis prepared?

19   A.   I'm not aware of a report.

20   Q.   Was -- were you briefed on the analysis that

21   was performed on the trading history data?

22   A.   The brief I received from my team preparing for

23   the initial -- the initial proof of claim submission and

24   then subsequent amendments was that we were not able to

25   see anything that would cause us to think that the size

1   of the relationship between FTX and Three Arrows was

2   what it was.

3   Q.   Your statement in Paragraph 31 where you say

4   you were only able to download a high-level summary of

5   withdrawal and deposit details, what do you mean by

6   "high level"?

7   A.   Without reference back to those summaries, I

8   could only make my assumption is it would mean it's the

9   daily withdrawals and deposits or at least cumulative --

10   I would say aggregated withdrawal deposits. But

11   withdrawals and deposits is the key point, not trading

12   history.

13   Q.   You could see account balances in the account

14   when you accessed it, at least back to May of 2022;

15   correct?

16   A.   No. What I state in my declaration is we could

17   see withdrawal and deposit details dating back to

18   May 2022.

19   Q.   My question, aside from your declaration, is

20   whether you could see account balances back to May 2022.

21   A.   I'm not aware that we could see the account

22   balances such that we could determine the size of the

23   trading relationship between Three Arrows and FTX.

24   Q.   I'm going to do it this way. I'm going to ask

25   you in your capacity as a representative of the joint

1   liquidators.

2   Were the joint liquidators able to access and

3   view the account balances, at least back to May 2022,

4   through the FTX platform?

5   MR. HARRIS: Objection. Vague.

6   THE WITNESS: To the best of my knowledge in

7   the manner in which you asked the question, we were

8   not able to see account balances such that we could

9   determine the size of the relationship between FTX

10   and Three Arrows, the trading relationship.

11   MR. GLUECKSTEIN: I'm going to ask the court

12   reporter to mark as our next exhibit, 5 -- as

13   Exhibit 5 an e-mail chain with a Bates Number 3AC

14   FTX 00526884 on the front page.

15   (Defendants' Exhibit Number 5,

16   3AC-FTX-00526884-85, was marked for Identification.)

17   BY MR. GLUECKSTEIN:

18   Q.   Mr. Crumpler --

19   A.   Uh-huh.

20   Q.   You've been handed an e-mail dated July 19th,

21   2022, from Mr. Farmer to yourself and others at Teneo.

22   Do you see that?

23   A.   I do.

24   Q.   Do you recall receiving this e-mail?

25   A.   I received this e-mail.

1   Q.   Do you recall reviewing it at the time you

2   received it?

3   A.   I did recall reviewing it at the specific time

4   I received it. I have received -- reviewed it

5   subsequently.

6   Q.   When, subsequently, did you review this e-mail?

7   A.   In preparation for both this deposition and in

8   preparing my declaration.

9   Q.   So is this e-mail one of the documents that

10   informs the statements in your declaration?

11   A.   Yes.

12   Q.   You see under -- under the heading of

13   transactions, about halfway through the e-mail, there's

14   a transactions heading in bold there?

15   A.   Yes, I do.

16   Q.   And then Mr. Farmer writes right after that

17   "There is a vast amount of transactional data on the

18   account."

19   Do you see that?

20   A.   Uh-huh.

21   Q.   Is that a "yes"?

22   A.   Yes. Apologies.

23   Q.   Mr. Farmer goes on to write a little further

24   down, "We're going to need to start downloading this

25   information if possible so that we can run analysis in

1   the future."

2   Do you see that?

3   A.   I do, yes.

4   Q.   Is this the information that we've just been

5   talking about that you ultimately say you were unable to

6   download?

7   A.   That's correct, yes.

8   Q.   How were you able to conclude that this vast

9   amount of transactional data on the account was

10   incomplete, if you did not download it?

11   A.   We were able to conclude that it didn't -- so

12   with -- once we've received and finally analyzed the raw

13   data provided to us after December 2023 --

14   Q.   Uh-huh.

15   A.   Then we were able to conclude that by looking

16   at the account -- our retrospective belief of what we

17   could see in the account at that time because there is

18   an important point to know that -- didn't allow us to

19   see, based on what we had access to, what was going on

20   if we had been provided with all of the data that FTX

21   had and that we were requesting, we may have got to the

22   same answer.

23   But we were not provided with all that data,

24   and on the 11th of November 2023, the access to the

25   platform itself was revoked.

1   Q.   You're saying that upon receiving the

2   data produced by the FTX debtors --

3   MR. HARRIS: I'm sorry. I didn't mean to

4   interrupt.

5   You said November of 2023. I just want to make

6   sure the record is correct.

7   THE WITNESS: That's correct. Sorry.

8   November 2022, that's when our access to the FTX

9   platform was revoked.

10   Prior to that, we had been requesting

11   downloads -- the information directly from FTX.

12   BY MR. GLUECKSTEIN:

13   Q.   And so the comparison that you referenced upon

14   receiving information from the FTX debtors in

15   December 2023, which was -- was that comparison done to

16   the data available on the FTX account or the information

17   that had been provided by FTX?

18   A.   The body of information provided to us by FTX.

19   Q.   And as you said, you had lost access to the FTX

20   account. So you were not in a position at that time, in

21   December of 2023 to compare the data set you were

22   provided to what was available on the FTX account;

23   correct?

24   A.   That's correct. But as you will see from that

25   e-mail, Exhibit 4 -- 5 which you referenced me to, we

1   were going to need to start downloading this

2   information, brackets, if possible, so we can run

3   analysis in the future. I.e., we could not see from

4   what was there in front of us what that data meant and

5   we could not download it to run that analysis.

6   Q.   So you don't know whether the complete set of

7   data was available on the FTX account when you did have

8   access to it in 2022; correct?

9   MR. HARRIS: Object to the form.

10   THE WITNESS: I would ask you to define

11   "access."

12   BY MR. GLUECKSTEIN:

13   Q.   When you were able to access the FTX account

14   starting in July of 2022 when the joint liquidators were

15   provided access to the FTX -- the 3AC FTX account, you

16   don't know whether the data that was provided to you

17   subsequently by the FTX debtors was contained in that

18   vast amount of transactional data; correct?

19   A.   We couldn't access that data. We could access

20   the accounts. But as we've repeatedly said, we needed

21   to access the data to be able to understand the trade --

22   the transactional relationships between Three Arrows and

23   FTX.

24   Q.   Well, you were saying -- I understood your

25   testimony, correct me if I'm wrong, is that you were

1   unable to download the full trading data; correct?

2   A.   We were unable to download the full trading

3   data. And from what we could see on the accounts, we

4   could not -- and obviously this is our recollection

5   because we don't have access to the accounts anymore.

6   That account access was removed.

7   So our recollection is we could not see on the

8   accounts the trading history, i.e., a summary of what

9   was owed by whom to what -- whom at any point in time,

10   based on our access to those accounts. What we could

11   see was there was a vast amount of information that we

12   would need to download and analyze, which we could not

13   do, and therefore, we kept requesting that transactional

14   data during the course of -- of 2022 until our access

15   was -- was revoked.

16   Q.   This e-mail that is in front of you, Exhibit 5,

17   if you move further up in that e-mail chain -- I'm

18   sorry, in this e-mail from --

19   A.   Uh-huh.

20   Q.   -- Mr. Farmer, at the beginning, there's a

21   reference to "Please see a snapshot below," which is an

22   excerpt that -- in the e-mail of the portfolio valued at

23   4.5 million. Mr. Farmer then writes "I believe this

24   roughly aligns with what the directors told us was held

25   there."

1   Do you see that statement?

2   A.   I do, yes.

3   Q.   Who are the directors that Mr. Farmer is

4   referencing?

5   A.   By the directors, he means Su Zhu and Kyle

6   Davies. You would have heard me refer to them as

7   founders of Three Arrows.

8   Q.   And why is he referencing them there as

9   directors?

10   A.   Because they were directors of Three Arrows

11   Capital itself as well as having set up the overall

12   structure of entities that serviced Three Arrows.

13   And as part of the liquidation process, they

14   are required to cooperate with us and provide details of

15   assets and liabilities.

16   Q.   And you repeatedly refer to them as the

17   founders.

18   Is there a significance as to why that

19   nomenclature?

20   A.   They -- yes. The simplistic way of explaining

21   it is that they were at various points in time directors

22   or not directors of Three Arrows. They came on and off

23   the board. They were either the majority shareholders

24   of Three Arrows or majority holders through nominees.

25   They established in exactly the same way the entities

1   that service Three Arrows, its feeder funds, which is

2   the way a hedge fund is structured. You have a fund

3   which allows external investors that invest into the

4   master fund, which is Three Arrows, via the entity that

5   myself and Chris Farmer are appointed over.

6   So they established the feeder funds, the

7   investment manager -- two investment managers, a number

8   of other related entities. And they were the people

9   that set up Three Arrows initially, and they're the

10   people that were running it and the principal people

11   running it through the course of its life and well-known

12   across the industry as -- as the face of, the founders,

13   of Three Arrows.

14   So we used the word "founders" to encapsulate

15   their entire relationship with Three Arrows, but they

16   were the controlling lines and individuals of Three

17   Arrows.

18   Q.   Thank you.

19   When Mr. Farmer writes that he believes this

20   roughly aligns with what the directors had told us was

21   held there, what communication is he referring to?

22   A.   Excuse me.

23   We received from the founders, the exact data

24   within our proof of claim and my declaration, a

25   spreadsheet -- which if one was to print it out in, you

1   know, an easily readable size would be, you know, two or

2   three pages of letter, no more -- detailing their

3   understanding of the assets -- the remaining assets of

4   Three Arrows.

5   That included two line items referencing the

6   SRM token and the FIDA feeder tokens as being held with

7   FTX.

8   Q.   So when Mr. Farmer writes that "This aligns

9   with what the directors told us," it's your

10   understanding that this was reflected in that

11   spreadsheet and not on the basis of any oral

12   communication?

13   A.   It was reflected in that spreadsheet. Not on

14   the basis -- at that point in time. And, indeed, at

15   this point in time, we'd had no oral communication with

16   the directors or the founders.

17   Q.   Going back down -- a little further down in

18   this e-mail, Mr. Farmer writes "The majority of the TRF

19   out on the last date of trading, being 14 June 2022,

20   shows 15,000 ETH being TRF out on the Three Arrows tag

21   wallet."

22   Do you see that?

23   A.   I do, yes.

24   Q.   And Mr. Farmer could see that based on the

25   access he had to the FTX account; correct?

1   A.   He could see the transfer out and he could see

2   based on the ETH scan. So that is a search that a

3   knowledgeable member of the public can perform on the

4   Internet that transfer coming from an FTX wallet to a

5   3AC wallet.

6   Q.   And you were able to determine that the ETH

7   being transferred out of that FTX account was, in fact,

8   transferred into a Three Arrows Capital wallet; correct?

9   A.   That's correct.

10   Q.   As part of your investigations into the FTX

11 account, did you -- did your team review

12 publicly-available wallet and block chain information

13 with respect to transfers?

14   A.   Yes.

15   Q.   So you were able to see other transfers that

16 went into Three Arrows Capital accounts or that were

17 transferred out of FTX wallets through block chain

18 information; correct?

19   MR. HARRIS: Objection. Compound.

20   THE WITNESS: Can you ask the first part of the

21   question again, please?

22 BY MR. GLUECKSTEIN:

23   Q.   The first part of the question -- let me -- let

24 me make it two questions.

25   You were able to review publicly available

1   wallet addresses to see transfers into Three Arrows

2   Capital wallets; correct?

3   A.   If we were aware of a wallet associated with

4   Three Arrows Capital, then, yes, reviewing the block

5   chain allowed us to see transfers in and out of that

6   wallet.

7   Q.   And you were able to -- to review block chain

8   information for transfers -- well, I will ask you.

9   Were you able to review any publicly available

10   information with respect to transfers out of the 3AC FTX

11   account?

12   A.   We were able to --

13   MR. HARRIS: Object to the form.

14   THE WITNESS: We were able to see transfers

15   from FTX to Three Arrows' wallets that were outside

16   of the FTX environment.   What we can't see is

17   transfers and things that happen within the FTX

18   environment.

19   BY MR. GLUECKSTEIN:

20   Q.   Back to -- if we could look back -- turn back

21   to your declaration.   We were talking about

22   Paragraph 31.

23   A.   Okay.

24   Q.   And the efforts to transfer -- I'm sorry.   The

25   efforts to download the full trading history.

1   At any point in time did the joint liquidators

2   attempt to download themselves something less than the

3   full trading data, for example, a shorter period of

4   time, 90 days?

5   A.   You will see that we were only able to download

6   a high-level summary of withdrawal and deposit details.

7   Q.   Okay. So --

8   A.   That's what I said in my declaration.

9   Q.   All right. I understand what your declaration

10   says. I'm just trying to get your understanding of

11   what -- was there an attempt to download the full

12   trading data -- the full trading history available on

13   the FTX account for the 90 days prior to your

14   appointment?

15   A.   I do not know what specific attempts were made,

16   so I do not know if there was a specific attempt to

17   download trading data for the 90 days prior to my

18   appointment. I can make an assumption that my team

19   would have tried to download whatever they could

20   download from that data source from that site because

21   that is what we do with respect to any -- anything we

22   have access to where we are gathering information and

23   have no company information available to us.

24   Q.   So the joint liquidators --

25   A.   So I can testify to our standard practice. I

1   cannot testify to which specific dates that my team may

2   or may not have sought to download which groups of

3   dates, which periods of time, shortened periods, etc.

4   Q.   Is it your understanding that your team was

5   unable to download any of the trading history that was

6   visible on the FTX account once you got access to it in

7   July 2022?

8   A.   It's my understanding that we were only able to

9   download a high-level summary of withdrawals and

10   deposits, as I state in my declaration.

11   Q.   Okay. You -- if we move, then, to Paragraph 32

12   of your declaration, you reference information provided

13   by FTX on September 16th, 2022; correct?

14   A.   I'm just reading the paragraph.

15   I'm sorry. Could you repeat the question,

16   please?

17   Q.   So -- I'll rephrase it.

18   You note in Paragraph 32 that there was

19   information provided on September 16th, 2022, presumably

20   from FTX; correct?

21   A.   Correct.

22   Q.   What did the joint liquidators ask FTX for on

23   September -- on or about September 16th, 2022?

24   A.   To specifically answer that question, I'd have

25   to refer to the documents that we've disclosed to you.

1   Q.   Do you have an understanding of what was

2   requested at that time, in September of --

3   A.   We were --

4   Q.   -- mid-September 2022, from that --

5   A.   We continued to ask for trading history with

6   respect to FTX.

7   You will see in Paragraph 33 of my declaration

8   an expansion upon that.

9   (Defendants' Exhibit Number 6,

10   3AC-FTX-00526991-966, was marked for

11   Identification.)

12   MR. GLUECKSTEIN: I'll ask the court reporter

13   to mark as Exhibit 6 an e-mail chain, the first

14   page, 3AC-FTX-00526961.

15   THE WITNESS: Okay. I can see that.

16   BY MR. GLUECKSTEIN:

17   Q.   Okay. Mr. Crumpler, have you seen this e-mail

18   chain before?

19   A.   Yes, I have.

20   Q.   When do you recall seeing this e-mail chain

21   before?

22   A.   Most recently in preparation for this -- this

23   deposition and in preparing my declarations.

24   Q.   And does the information in this e-mail chain

25   comprise some of the information you relied on in

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1   preparing your declaration?

2   A.   It -- yes, but it's not significant

3   information.

4   Q.   Do you recall reviewing this e-mail chain at

5   any point prior to the preparation for your declaration

6   and testifying?

7   A.   No.

8   Q.   If you go to the page ending in 6963 --

9   A.   Uh-huh.

10   Q.   -- first e-mail --

11   A.   Yes, sorry.

12   Q.   First e-mail on this chain, about halfway down

13   the page, looks like it's dated September 13th, 2022.

14   Do you see that? I'm sorry, from Mr. Christian

15   Fay.

16   A.   I do.

17   Q.   What's your understanding of what -- the reason

18   for Mr. Fay's e-mail of September 13th, 2022?

19   A.   So the purpose of the e-mail was to request

20   further information. The statements in the e-mail I

21   think are clear. We are only able to pull withdrawal

22   details back to 22nd of May and deposit details back to

23   the 11th of May, 2022; however, in the FTX portal, we

24   could see -- Christian could see there was an account

25   that was active back to 2020.

1   So at this point in time, our focus was still

2   very much on what funds had come in and out of FTX. We

3   were seeing FTX as an exchange, which we would use to

4   transact with third parties to purchase

5   cryptocurrencies, to sell cryptocurrencies.

6   So we were looking for assets and tracing the assets of

7   the company, which is why we wanted to look at deposits

8   and withdrawal history prior to May -- or indeed

9   mid-May 2022.

10   Q.   Okay. And --

11   A.   That's the purpose of this e-mail.

12   Q.   And this e-mail of September 13th, 2022, is

13   this the first correspondence to FTX after you received

14   access to the account in July?

15   A.   I -- I'm not certain of the answer to that

16   question with what's in front of me now.

17   Q.   Are you aware of any -- I'm sorry. Let me

18   rephrase on this one.

19   Are the joint liquidators aware of

20   correspondence or communication with FTX between

21   receiving access to the account in July and this e-mail

22   of September 13th, 2022?

23   A.   I am not aware at this point in time, sitting

24   here in front of you, of any correspondence. If there

25   was correspondence, it has been disclosed to FTX.

1   Q.   And Mr. Fay in this e-mail is asking for

2   withdrawal details earlier in time than May of 2022;

3   correct?

4   A.   Correct.

5   Q.   And he's also asking for deposit history prior

6   to May 2022; correct?

7   A.   Correct.

8   Q.   Mr. Fay is not asking for trading history at

9   any point in time in this e-mail; correct?

10   A.   Not in this e-mail. He has requested it or it

11 has been requested in other e-mails.

12   Q.   It was not included in this e-mail; correct?

13   A.   No, not in this e-mail.

14   Q.   Okay. And Ms. Bethel at FTX responds three

15 days later in the next e-mail on September 16th stating,

16 "Please note we have extracted the full deposit and

17 withdrawal history for the account."

18   Do you see that?

19   A.   I do, yes.

20   Q.   So in your declaration, in Paragraph 31 -- if

21 we could turn back to that. In the last sentence

22 there --

23   A.   Yep.

24   Q.   -- you say there by response on September 16th,

25 2022, "FTX provided what we understood to represent the

1   full withdrawal, deposit, and transfer history for the

2   account."

3   Do you see that?

4   A.   I do.

5   Q.   Was there any request or response that

6   addresses in the e-mail chain we just looked at as

7   Exhibit 5 of transfer history?

8   MR. HARRIS: Object to the form.

9   THE WITNESS: The -- please, could you repeat

10   the question.

11   BY MR. GLUECKSTEIN:

12   Q.   I'm asking whether there's any discussion in

13   the e-mails we just looked at from September 13th and

14   September 16th where the information was provided by FTX

15   to transfer history.

16   MR. HARRIS: Object to the form.

17   THE WITNESS: The requests in this e-mail from

18   Teneo to FTX, the specific e-mail on the 13th of

19   September, referenced internal -- two specific

20   internal transactions or a -- I'm sorry, internal

21   transfers on two dates, to two specific addresses.

22   The response from FTX references those transfers.

23   BY MR. GLUECKSTEIN:

24   Q.   Okay. But with -- other than with respect to

25   the two transfers that were both asked about and

1   information provided, there's no discussion in this

2   exchange ending September 16th about transfer history

3   for the account; correct?

4   A.   That appears to be correct, yes.

5   Q.   In response to the request with respect to the

6   two internal transfers that you noted in Mr. Fay's

7   September 13th e-mail, Ms. Bethel responds in her

8   September 16th e-mail with respect to those transfers;

9   correct?

10   A.   That's correct.

11   Q.   And she says that she's only able to disclose

12   the wallet address for one of the two transfers, it

13   appears. She writes, quote "Since it appears to belong

14   to an administrator of Three Arrows Capital."

15   Do you see that?

16   A.   I do, yes.

17   Q.   She notes above that that the wallet addresses

18   belong to clients of FTX.

19   Do you see that?

20   A.   Yes.

21   Q.   So at that point, as of September 16th, 2022,

22   the joint liquidators understood that there were

23   transfers out of the account -- the Three Arrows account

24   to third parties; correct?

25   MR. HARRIS: Object to the form.

1   THE WITNESS: Yes, that's correct.

2   BY MR. GLUECKSTEIN:

3   Q.   There was no -- there was no communication to

4   FTX after receiving the information on September 16th

5   that the information that was provided was not

6   responsive to the request; correct?

7   MR. HARRIS: Object to the form.

8   THE WITNESS: With respect to that specific

9   request regarding the transfers, then, that's

10   correct.

11   BY MR. GLUECKSTEIN:

12   Q.   Okay. If we continue -- I'm sorry. Back to --

13   MR. GLUECKSTEIN: This is Exhibit --

14   MS. LIU: -- 6.

15   MR. GLUECKSTEIN: 6?

16   BY MR. GLUECKSTEIN:

17   Q.   All right. Exhibit 6, this e-mail chain that

18   we've been looking at, Mr. Crumpler. If we turn to the

19   page -- the prior e-mail, before the ones we were just

20   discussing, the Bates number ending 6962.

21   A.   So by "prior" you mean subsequent in date but

22   prior in the exhibit?

23   Q.   Yes, sir.

24   A.   Okay.

25   Q.   Do you see on that page there is an -- an

1   e-mail -- further e-mail from Mr. Fay, middle of the

2   page, September 19, 2022?

3   A.   I do, yes.

4   Q.   Mr. Fay references in that e-mail a transfer on

5   the 15th of June, 2022.

6   Do you see that?

7   A.   I do.

8   Q.   Do you know what Mr. Fay is referring to in

9   this e-mail where he says "a transfer from blocks two to

10   blocks of USD 398963"?

11   A.   My understanding is that refers to a transfer

12   within two of the different subaccounts of Three Arrows.

13   Q.   And that's -- and that was a transfer that

14   occurred in the month of June 2022; correct?

15   A.   Yes, after the majority of positions had been

16   liquidated from FTX.

17   Q.   The data -- the data that you had been provided

18   or had access to did include transfers of -- in the

19   month of June 2022; correct?

20   MR. HARRIS: Object to the form.

21   THE WITNESS: My understanding is the data did

22   include transfers in the -- the related and latter

23   part of June 2022, and specifics with respect to

24   that are provided in my declaration.

25

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1   BY MR. GLUECKSTEIN:

2   Q.   Is it your -- can you elaborate by what you

3   mean by "the latter part of June 2022."

4   A.   I can, if you let me just find the specific

5   point in my declaration.

6   So the trade information that was provided to

7   us -- and this is referencing Paragraph 30 of my

8   declaration -- revealed just over 16,000 trades across

9   12 of the subaccounts -- crucially, not the 13th

10   subaccount -- between the 14th of June and the 4th of

11   July, the majority of which occurred on the 14th of

12   June. That's it. That's all in Paragraph 30 of my

13   declaration.

14   And you'll note the subsequent reference in

15   that paragraph with respect to -- to subaccount 13,

16   where there were another 107,000 trades in that time

17   period.

18   Q.   Okay. And -- and consistent with what you're

19   writing here, your testimony is that you had no

20   transactional information with respect to that 13th

21   subaccount; correct?

22   A.   That's correct. That was not provided to us by

23   FTX.

24   Q.   And it's your testimony that you did not have

25   access to that 13th subaccount when accessing the FTX

1   account in July 2022?

2   A.   It's my testimony we did not have access to

3   sufficient data on that platform to be able to

4   understand the trading relationships between FTX and

5   3AC, which is why we consistently requested additional

6   documentation.

7   Q.   My question's a little different.

8   Did you have -- did the joint liquidators have

9   any access to the 13th subaccount when accessing the 3AC

10   accounts in July of 2022?

11   A.   I didn't specifically know which accounts we

12   had access to from the platform we were given access to.

13   I know the requests we made of FTX with respect to the

14   data that we required to conduct our analysis. In

15   preparation for this deposition, I clearly could not

16   access that account because that access was blocked to

17   us when FTX entered insolvent bankruptcy proceedings.

18   Q.   And it's your position that the information

19   provided by FTX on September 16th, 2022, did not include

20   deposit and withdrawal history for the 13th subaccount?

21   A.   It's my position that the information provided

22   to us by FTX on September the 16th and elsewhere prior

23   to its bankruptcy did not provide the transactional

24   history -- the internal trade history necessary to

25   understand the -- the relationship.

1   Q.   Did the information provided to you on

2   September 16th, 2022, by FTX include withdrawal and

3   deposit information for the 13th subaccount, as you

4   refer to it?

5   A.   I've got no reason to believe it did not

6   include that information. There is a significant

7   difference between withdrawals and deposits onto the FTX

8   platform compared to what happened on the platform.

9   Q.   I understand. But -- I understand your

10 position, sir.

11   But with respect to the request on

12 September 16th, as we've already discussed, that request

13 was for withdrawal and deposit information; correct?

14   A.   Correct.

15   Q.   And you have no reason to believe, as you

16 stated it, that that information failed to include the

17 13th subaccount; correct?

18   MR. HARRIS: Object to the form.

19   THE WITNESS: At that point in time, then, yes,

20   I have no reason to believe that we weren't provided

21   with withdrawal and deposit information.

22 BY MR. GLUECKSTEIN:

23   Q.   With respect to Mr. Fay's further inquiry on

24 September 19th that we're looking at here on the page

25 ending in 6962 --

1   A.   Yes.

2   Q.   -- that request includes a -- a request for

3   transaction logs of fiat withdrawals to bank accounts;

4   correct?

5   A.   Correct.

6   Q.   Ms. Bethel responds later that same day to

7   Mr. Fay; correct?

8   A.   That's correct.

9   Q.   And she notes, in part "Kindly note that all

10   trades can be found in the fills tab."

11   Do you see that?

12   A.   I do.

13   Q.   Do you have an understanding what she was

14   referring to in the fills tab there in that e-mail?

15   A.   I'm sorry. What is my understanding?

16   Q.   Yeah, do you have an understanding?

17   A.   I do.

18   Q.   And what is that understanding?

19   A.   So that is a -- that the fills are the trades

20   that were being performed within the FTX platform,

21   specifically purchases and sell- -- so purchasing and

22   selling of cryptocurrency.

23   Q.   And Ms. Bethel is referring you to the fills

24   tab within the account; correct?

25   A.   I assume that's correct, yes. I don't have

1   access to the account and didn't have access to the

2   account to fully prepare -- or prepare for this

3   deposition or our amended claims or my declaration.

4   Q.   At the time of this e-mail exchange in

5   September of 2022, at least some members working at --

6   of your team, working at the direction of the joint

7   liquidators, had access to the 3AC/FTX account; correct?

8   A.   Correct.

9   Q.   And then they would have had access to the

10 fills tab that Ms. Bethel was referring to; correct?

11   A.   I believe that to be correct, yes.

12   Q.   If we continue on to the -- what is the first

13 page of the exhibit, the e-mail exchange -- or the

14 e-mail page ending 6961. It's one further e-mail from

15 Mr. Fay to Ms. Bethel on September 26th, 2022.

16   Do you see that?

17   A.   I do.

18   Q.   And Mr. Fay is asking for a deposit and

19 withdrawal history in a particular format for a

20 particular period.

21   Do you see that?

22   A.   I do.

23   Q.   And then Ms. Bethel responds the next day, on

24 September 27th, "As requested, please find attached the

25 requested transaction history in the reference format."

1   Do you see that?

2   A.   Yes, I do.

3   Q.   As of the date of this exchange, in September

4 of 2022, were any -- are you aware of any requests for

5 information made of FTX that were not responded to?

6   MR. HARRIS: Object to the form.

7   THE WITNESS: I'm not aware of any requests

8   that were not responded to. Obviously, with the

9   benefit of having the full transactional history, I

10   am aware that those requests or a number of our

11   requests were not responded to in full.

12   (Defendants' Exhibit Number 7,

13   3AC-FTX-00008188-216, was marked for

14   Identification.)

15   MR. GLUECKSTEIN: Okay. I'm going to ask the

16   court reporter to mark as Exhibit 7 an e-mail chain,

17   the first page, Bates Number 3AC-FTX-00008188.

18   THE WITNESS: Okay. I've got that e-mail --

19   that exhibit.

20 BY MR. GLUECKSTEIN:

21   Q.   Mr. Crumpler, have you seen this e-mail

22 exchange before today?

23   A.   Yes, I have.

24   Q.   When did you review this e-mail chain?

25   A.   I reviewed this e-mail chain in preparation for

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1   this deposition, for my declaration, and with respect to

2   our motions and amendments as filed.

3   Q.   Do you recall reviewing this e-mail chain at

4   any point earlier in time prior to the process of

5   preparing your amended claim and declaration?

6   A.   I recall reviewing the product of this e-mail

7   chain, what it says in respect to other -- other matters

8   within the 3AC liquidation.

9   Q.   And can you elaborate on what you mean by that,

10   "the product of this e-mail chain"?

11   A.   This e-mail chain is specific to AVAX.

12   Q.   Right.

13   A.   And that is -- certainly the end of it is that

14   goes right back into the previous exhibit.

15   Q.   Uh-huh.

16   A.   We had a particular interest in AVAX, and that

17   is what I refer to.

18   Q.   Understood. Thank you.

19   If we could start on this -- on the page that

20   has Bates Number -- I'm sorry. Hold on -- 8195.

21   A.   Okay.

22   Q.   Okay. There's an e-mail, October 10th, 2022,

23   from Mr. Fay to Ms. Bethel.

24   Do you see that?

25   A.   I do, yes.

1   Q.   And Mr. Fay writes, "Do you have a record of

2   the bank accounts to which the fiat withdrawals were

3   sent?"

4   Do you see that?

5   A.   I do.

6   Q.   Was there a particular reason that you're aware

7   of at this time why you were focused on fiat transfers?

8   A.   Yes. So at this point in time, our focus was

9   still on actually understanding what 3AC did and what

10   assets it had and where those assets may have been

11   dissipated to in the period leading up to the

12   liquidation, given that we had had no meaningful

13   cooperation from the founders of the company.

14   And obviously bank accounts -- as much as we

15   were in the crypto world, bank accounts is still very

16   important to understand how one effectively gets off

17   chain and where that money may have gone under more

18   traditional routes.

19   So any time we could find that information

20   about what may have been the bank accounts of the

21   company or another entity or individual that received

22   money via their bank accounts, we were particularly

23   interested in it.

24   Q.   And it appears that Ms. Bethel responded three

25   days later, on October 13th, with the requested

1   information; correct?

2   A.   That appears to be correct, yes.

3   Q.   Okay. If we move up the chain to the page --

4   prior page ending 8193 --

5   A.   Yes.

6   Q.   -- and Mr. Fay sends another e-mail on

7   October 18th, 2022.

8   Do you see that?

9   A.   I do, yes.

10   Q.   And he says there that "We have a high-priority

11   request with respect to trading activity," and he

12   references there the AVAX tokens you just referred to.

13   Do you see that?

14   A.   That's correct.

15   Q.   Why were you concerned with AVAX tokens at this

16   point in time?

17   A.   There were two reasons we were concerned with

18   AVAX tokens -- I guess three reasons, actually.

19   The first reason being it was an asset of the

20   company that we still believed that we held in various

21   forms or that other people were holding potentially to

22   our benefit.

23   The second reason is that we were beginning to

24   seek to understand the relationship between AVAX and

25   collateral posted with respect to another 3AC creditor

1   with whom we had a dispute.

2   And the third reason is we were in

3   communications with the group of companies the -- the

4   AVAX token is associated with, so Avalanche, the

5   Blizzard Fund, and others, with respect to what assets

6   we may or may not have had, and that included AVAX

7   tokens. That also included interaction with TPS, which

8   we've referenced before.

9   Q.   And it again appears that Ms. Bethel responded

10   to Mr. Fay's request with the requested information

11   within a day or so; correct?

12   A.   That's correct.

13   Q.   Mr. Fay follows up further, asking on

14   October 19th on the page ending 8191, to confirm the

15   balance of AVAX held in the main account, May 14th,

16   2022.

17   Do you see that?

18   A.   I do.

19   Q.   And, again, he's provided that information with

20   respect to the AVAX token; right -- promptly; correct?

21   A.   That's correct, yes.

22   Q.   And, Mr. Crumpler, if I could just ask you to

23   look back at your declaration again.

24   A.   Okay.

25   Q.   If you still have that handy, Paragraph 33 -- I

1   think you referenced this paragraph earlier.

2   A.   Yes.

3   Q.   You talk in Paragraph 33 about requests in

4   September, October, November 2022 for account

5   information from FTX; correct?

6   A.   That's correct.

7   Q.   And you -- you go on there to say "...

8   including start trade data, fiat bank withdrawal account

9   information, transactional data relating to AVAX

10   tokens"; right?

11   A.   Yes, that's correct.

12   Q.   Other than the one phone call on July 7th that

13   we talked about at the outset and a series of

14   correspondence that we have reviewed this morning, are

15   you aware of other requests made by the joint

16   liquidators to FTX in this time frame of September,

17   October, November 2022 for the information referenced in

18   Paragraph 33?

19   A.   All of the correspondence that I'm aware of is

20   being disclosed to FTX. So if that's all that's in

21   front of you, then that is the correspondence.

22   Of course we were initially relying on the

23   statements that we've been provided with everything.

24   Q.   And --

25   A.   So I do go back to our initial request and our

1   initial correspondence with FTX that said, "Is this

2   everything? Here's the full data." And the fact that

3   it became increasingly clear, as we get towards the end

4   of October, that we hadn't been provided with the full

5   data.

6   Q.   Okay. So other than the e-mail correspondence

7   that -- the correspondence that has been disclosed to

8   FTX and the one phone call we talked about, you're not

9   aware of any other requests made to FTX in the

10   September, October, November '22 time frame; correct?

11   A.   Correct.

12   Q.   And you just made a comment that as -- as time

13   progressed, and you referenced late October, is that

14   October of 2022 where you said you started to question

15   the information?

16   A.   Well, certainly the completeness of the

17   information, yes.

18   Q.   And what caused you in October of 2022 to

19   question the completeness of the information?

20   A.   So we could see when the AVAX information was

21   provided to us that -- for the transfers of AVAX, there

22   was significant data lines, and so lots of

23   microtransactions, which were over and above the data

24   that had been transferred to us. We did not see from

25   that data and could not see from that data that there

1   was a significant internal -- I think you understand

2   what I mean by "internal" -- within the FTX platform

3   trading relationship.

4   So we were still only seeing a relationship

5   which is one where FTX was used predominantly for making

6   excha- -- making trades with other parties.

7   Q.   After receiving the AVAX data that you just

8   referenced, the joint liquidators did not interpose any

9   further follow-up requests for information to FTX;

10   correct?

11   MR. HARRIS: Object to the form.

12   BY MR. GLUECKSTEIN:

13   Q.   Sorry.

14   Prior to November 11th, 2022.

15   A.   That's my understanding, yes.

16   MR. HARRIS: Whenever you're at a good spot,

17   can we break for lunch?

18   MR. GLUECKSTEIN: Yeah, we're pretty -- I'm

19   going to -- if we could just go maybe another five

20   minutes, and then we're going to be changing topics

21   anyway. That will be a good time to take a break.

22   BY MR. GLUECKSTEIN:

23   Q.   Okay. I want to -- I just -- before we do, I

24   wanted to ask you about Paragraph 34 of your

25   declaration --

1   A.   Sure.

2   Q.   -- which you made some comments about at the

3   outset of the deposition today. But I want to ask you

4   about what we have here in Paragraph 34.

5   You write in the declaration at the bottom of

6   Page 13 "We've now learned that this trade data

7   represents only .00003 percent of the 3AC Debtors' spot

8   trades on the FTX platform across June 13th, 2022, and

9   June 14th, 2024."

10   A.   Right.

11   Q.   What is the basis for that number that you

12 disclose in Paragraph 34 of your declaration?

13   A.   Just to reference back to my -- my prior

14 comment, I would with reflection state that slightly

15 differently, and I will take you through what I mean by

16 that.

17   So we had a huge amount of transactional data

18 specific to AVAX when it was disclosed to us. That's

19 the transactional history for the life of AVAX.

20   With respect to the -- the liquidation -- and,

21 again, I use that as a loose term. The reduction of the

22 trading relationship between Three Arrows and FTX on the

23 13th and 14th of June 2022, at that point in time, there

24 was very, very little AVAX within -- within the FTX

25 accounts of Three Arrows. And so AVAX itself only

1   represented not .00003 percent, whatever that percentage

2   is, of the value of assets held on the Three Arrows

3   accounts of FTX at that point in time.

4   However, what happened at that point in time

5   with millions of transactions to wind down the positions

6   of Three Arrows within FTX, we have not been provided

7   any of that information or hardly any of that

8   information prior to the 14th of December 2023. So we

9   had no way of knowing, based on what had been provided

10   to us, the magnitude of the relationship between Three

11   Arrows and FTX. It's very hard to know what you can't

12   know. You don't know what you don't know.

13   Q.   Okay. And so the -- the number that you're

14   providing here is a percentage of the value of trades on

15   the account; correct?

16   A.   So --

17   Q.   Not number of trades of value?

18   A.   It's a percentage of the value -- value of the

19   trades affected because the trades took everything to

20   zero. So potentially, the value of trades for those you

21   can read assets that were disclosed of on the account

22   across the period of 13th, 14th of June. There was very

23   little AVAX left.

24   So even though we had been provided with a

25   transactional history of AVAX and had repeatedly asked

1   for a full transactional history of the account, the

2   AVAX proportion of what happened on the 13th and 14th of

3   June was incredibly small. And, therefore, from AVAX,

4   there was no way we could have known the depth and

5   extent and value of that trading relationship.

6   Q.   Okay. From the -- from the correspondence we

7   have been reviewing today, the only token that you

8   specifically asked about was AVAX; correct?

9   A.   Correct.

10   Q.   All right. And in --

11   A.   But though I say that, the only token where we

12   got specific data with respect to was AVAX. I would

13   have to go back and review every bit of correspondence

14   to say that is the only token we specifically asked any

15   questions about. And, indeed, we did ask questions

16   about SRM, about feeder, and things like that, which

17   you've seen in the correspondence today.

18   Q.   And as we've been talking about, for each of

19   the requests that were made, you got information

20   provided to your response; correct?

21   MR. HARRIS: Object to the form.

22   THE WITNESS: As I've said previously, we've

23   got information in response to the requests we made.

24   We did not receive the totality of information

25   necessary with respect to the trading relationships

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1   3AC and FTX had on the FTX platform, nowhere even

2   close.

3   MR. GLUECKSTEIN: All right.   I think we can

4   take a break here.

5   MR. HARRIS: Okay.

6   (Thereupon, a recess was taken, after which the

7   proceedings continued as follows:)

8   MR. GLUECKSTEIN: All right.   Back on the

9   record.

10   BY MR. GLUECKSTEIN:

11   Q.   All right.   Mr. Crumpler, if we can -- if you

12   still have your declaration handy in front of you?

13   A.   Yes, I do.

14   Q.   If you could, turn back to that.   And if we

15   could turn to page -- to Paragraph 36 of your

16   declaration on Page 14.   It carries over on to Page 15.

17   A.   Okay.   I've read that paragraph.

18   Q.   Okay.   So I'd like to start by asking you, you

19   referenced in Paragraph 36 the joint liquidators'

20   retention of asset fund services.

21   Do you see that?

22   A.   I do.

23   Q.   Who are asset fund services?

24   A.   Excuse me.

25   Asset fund services are an administrator, and

1   that's what they do as a job. So an administrator is

2   someone who prepares in this sense NAV packs, investor

3   statements, etc., on behalf of the funds, such as Three

4   Arrows --

5   THE COURT REPORTER: Can you repeat that?

6   THE WITNESS: Maybe not word for word.

7   So asset fund services are an administrator,

8   and the role of an administrator within an

9   investment fund structure is to be the third party

10   that prepares NAV packs, investor statements, and

11   other related documents and analysis of computations

12   for the master fund, in this case, Three Arrows.

13   THE COURT REPORTER: Thank you.

14   BY MR. GLUECKSTEIN:

15   Q.   And what is a NAV pack, N-A-V, as you're

16   referring to it?

17   A.   NAV is net asset value. And a NAV pack is a

18   pack prepared -- or NAV pack or NAV statement, which is

19   a pack that supports the statement, is prepared on a

20   periodic basis -- normally monthly, some funds might be

21   quarterly -- to show the net asset position, i.e.,

22   assets versus liabilities or less liabilities of a fund.

23   Q.   And following your appointment as joint

24   liquidator, did the joint liquidators have access to the

25   NAV pack and other materials that Ascent had prepared

1   prior to the insolvency of 3AC?

2   A.   So yes. We had access to NAV packs that were

3   prepared -- that had been prepared prior to the

4   insolvency.

5   Q.   And did there come a point where the joint

6   liquidators retained Ascent to work with the joint

7   liquidators?

8   A.   We retained Ascent to work for 3AC to bring the

9   NAV packs, my terminology, up to date.

10   Q.   And do you recall when you retained them on

11   behalf of 3AC as the joint liquidators?

12   A.   I don't specifically recall when we retained

13   them. It would have been in the autumn of 2022. It's

14   possible the exact date is in my declaration. I'm not

15   sure that it is, though.

16   Q.   Has Ascent continued to provide N-A-V packs,

17   NAV packs statements to the joint liquidators through

18   the current reporting period?

19   A.   No.

20   Q.   When did that work cease?

21   A.   So we engaged them to provide us NAV packs up

22   to the end of May 2022, being the last full month end

23   prior to the liquidation.

24   Q.   Did they prepare a NAV pack for the month of

25   June 2022?

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1   A.   No, they did not.

2   Q.   In June -- June 2022 was not prepared, why?

3   A.   Two reasons. One, we were in liquidation at

4   that point in time. So the responsibility for

5   understanding what the assets of the entity are and who

6   the creditors of the entity obviously falls to the

7   liquidators.

8   And the other reason is that they prepared NAV

9   packs based on information provided to them by Three

10   Arrows. That information would never be complete for

11   June given that those information plays had ceased

12   during the course of June and the company or its

13   management were no longer cooperating with either

14   ourselves or anyone else.

15   Q.   Did Ascent -- did Ascent -- did Ascent have the

16   information it needed to prepare the NAV packs through

17   May of 2022?

18   A.   Yes.

19   MR. HARRIS: Object to the form.

20   THE WITNESS: Sorry. Could you just repeat the

21   question? Thank you.

22   BY MR. GLUECKSTEIN:

23   Q.   Yeah.

24   Did Ascent have the information it needed to

25   prepare a NAV pack through month end May 2022?

1   A.   It was able to prepare NAV packs based on

2   information it had. So I assume so, yes.

3   Q.   I guess said differently, Ascent never -- a

4   representative of Ascent never communicated to the joint

5   liquidators that they had insufficient information to

6   prepare NAV packs through May 2022; correct?

7   A.   Correct.

8   Q.   In Paragraph 36 of your declaration, about

9   halfway through Page 15, you state that on, quote "On

10 April 24th, 2023, over five months after FTX commenced

11 its Chapter 11 cases, Ascent provided to the joint

12 liquidators with a May 2022 NAV pack that showed the 3AC

13 debtor owed 120 million to FTX as of May 31, 2022.

14 (This ultimately turned out to be incorrect as we

15 recently learned.)"

16   Do you see that sentence?

17   A.   I do.

18   Q.   Can you explain what you mean by that sentence?

19   Let me break it down first.

20   A.   Yeah.

21   Q.   Can you explain what you mean by "This

22 ultimately turned out to be incorrect, as we recently

23 learned"?

24   A.   Of course. So once we received transactional

25 data on the 14th of December 2023 from FTX, and once we

1   were able to analyze and understand that data, which

2   took quite a bit given its size and the way it was

3   produced to us, we were able to understand that the

4   position that's between FTX and Three Arrows was

5   different.

6   Q.   So is it your testimony that 3AC does not have

7   a $120 million claim as was originally reflected in that

8   NAV pack?

9   MR. HARRIS: Object to the form.

10   THE WITNESS: My testimony is that 3AC has a

11   claim that is substantially greater than the

12         $120 million that was reflected in the NAV pack, and

13   that was some of the basis for our original proof of

14   claim.

15   BY MR. GLUECKSTEIN:

16   Q.   Okay. So I want to take a look at one of these

17   NAV packs. We have it -- we'll do whatever you prefer.

18   We have printouts, and we can also blow it up on the

19   screen if it's easier in form. But we wanted to make

20   sure. Whatever is preferable with the witness is fine

21   with us. We have it on a laptop and we have --

22   MR. HARRIS: Do you have it loaded on a laptop

23   he could look at?

24   MR. GLUECKSTEIN: Yes.

25   THE WITNESS: All right. We can try that and

1   -- it depends how far we're going to get into it.

2   MR. GLUECKSTEIN: We're not going that far into

3   it, but whatever is easiest for you.

4   MR. HARRIS: Probably the laptop is easier for

5   you, or whatever you'd rather --

6   THE WITNESS: I think probably the laptop's

7   easier.

8   BY MR. GLUECKSTEIN:

9   Q.   All right. Why don't we try that. We're only

10   going to look at a few things in here.

11   A.   Sure. Thank you.

12   MR. HARRIS: Can you let us know which one and

13   maybe -- there may be something here so we can

14   follow along.

15   MR. GLUECKSTEIN: Yes. So we have copies of

16   our large-size printouts --

17   MR. HARRIS: Sure. I'll take a look at that.

18   MR. GLUECKSTEIN: -- if people want to take a

19   look, and we can probably mark all those into the

20   record.

21   MR. HARRIS: What's the date of it so we can

22   pull it up?

23   MR. GLUECKSTEIN: Yeah. For the record, we're

24   going to look at what was produced to us in native

25   form as 3AC-FTX-005240000, which is the NAV pack

1   May 2022.xlsm file. So it's the May 2022 file.

2   MR. HARRIS: If we could pause for a minute so

3   that people can pull it up.

4   MR. GLUECKSTEIN: I'm happy to do that, sure.

5   THE WITNESS: I assume you have no issue with

6   me going through these tabs?

7   BY MR. GLUECKSTEIN:

8   Q.   I do not.

9   THE COURT REPORTER: Are you marking it or not?

10   MR. GLUECKSTEIN: Yeah, we'll need to mark it.

11   MS. LIU: This will be 8.

12   (Defendants' Exhibit Number 8,

13   3AC-FTX-00524000, was marked for Identification.)

14   MR. HARRIS: This is the most legibly printed

15   Excel --

16   MR. GLUECKSTEIN: I've never seen anything -- I

17   will say I've never seen anything like that. I can

18   take no credit for it at all. My comment was I've

19   never seen that size paper before.

20   THE WITNESS: This is quite remarkable.

21   MR. GLUECKSTEIN: Sienna gets all the credit

22   for figuring that out.

23   MR. TAOUSSE: It's even better than the laptop.

24   BY MR. GLUECKSTEIN:

25   Q.   Okay. I think we're good.

1   A.   We're good.

2   Q.   In your role as joint liquidator, did you

3   review the NAV packs that were prepared for the joint

4   liquidators, including for May of 2022?

5   A.   Yes, I did.

6   Q.   Did you review them at the time they were

7   produced by Ascent?

8   A.   Around that time, yes.

9   Q.   Okay. So the file that's up on the screen in

10   front of you, which is what was produced to us, is the

11   May 2022 NAV pack.

12   Is this a file that you have reviewed before?

13   A.   Yes. Not necessarily every line item on it,

14   but I've certainly reviewed the file.

15   Q.   And you're familiar generally with the contents

16   of what's in this file?

17   A.   Yes.

18   Q.   Do you have an understanding of what Ascent

19   used to prepare this NAV pack?

20   A.   Yes, I do.

21   Q.   What's your understanding of what they -- of

22   what Ascent used to prepare this NAV pack of May 2022?

23   A.   Information provided to them prior to the

24   insolvency of Three Arrows by the investment manager of

25   Three Arrows, which would have been 3AC Limited at that

1   time, together with limited -- we understand limited

2   access or historic access to -- to platforms such as

3   FTX.

4   But of course, and it's important to note with

5   respect to FTX, they would have had no access to FTX

6   after 11th of November, much like ourselves. I also

7   understand their access was limited.

8   Q.   Okay. I believe in Paragraph 36 of your

9   declaration, which we had looked at a minute ago --

10   A.   Uh-huh.

11   Q.   You said that the NAV pack showed the 3AC

12   Debtor owed 120 million to FTX as of May 31; correct?

13   A.   Yes, that's correct.

14   Q.   Okay. Do you have an understanding where in

15   the NAV pack that would be shown?

16   A.   I believe that would be shown on the loans

17   crypto tab.

18   Q.   Okay. So if we could go to that, please.

19   And I think there's an entry there at Row 110

20   that references FTX.

21   A.   Yes, I can see that.

22   Q.   Is that -- is the entry referencing FTX at Row

23   110 a reference to the $120 million that you discuss in

24   Paragraph 36 of your declaration?

25   A.   Yes, that's correct.

1   Q.   Okay. And FTX is reflected here in Column C,

2   which is referred to as, for that group of entries, the

3   lender; correct? It looks like on Row 32 --

4   A.   I just have to get back up to the top to

5   confirm that's what --

6   Q.   Row 32 has the headers.

7   A.   Yep, lender.

8   Q.   Okay. And in Column I of that -- of that row,

9   there's an entry for what appears to be 120 million;

10   correct?

11   A.   Yes, that's correct.

12   Q.   Okay. Is this entry in the main NAV pack the

13   basis for the joint liquidators belief that 3AC owed 120

14   million to FTX as of May 31st, 2022?

15   MR. HARRIS: Objection. Misstates the record.

16   MR. GLUECKSTEIN: I'm asking if it is.

17   THE WITNESS: I'll refer to the original claim

18   that we submitted, which didn't specify the totality

19   of our claims against FTX but did specify that there

20   was $120 million line of credit, which based on this

21   NAV pack was -- was there as a loan that had been

22   made and that was not represented to us as a

23   creditor claim at the date of liquidation.

24   That does not mean that even at that stage we

25   said that was the totality of our claims where we

1   had such a deficit of information.

2   BY MR. GLUECKSTEIN:

3   Q.   The reference to the $120 million loan that was

4   discussed in the proof of claim you submitted was based

5   on this reference in the May 2022 NAV pack; correct?

6   A.   That's where we get the 120 from. That's

7   correct.

8   Q.   Okay. If you could go to the -- the cash tab

9   within the -- within Exhibit 8.

10   A.   Uh-huh.

11   Q.   If you see that there.

12   If you scroll down, starting at Row 170 --

13   A.   Yep.

14   Q.   There are some entries there going through Row

15   193.

16   Do you see those?

17   A.   I do.

18   Q.   And there's a reference to FTX associated as

19   the counterpart on Rows 170 through 193; correct?

20   A.   Yes, that's correct.

21   Q.   What is your understanding of these entries

22   with respect to FTX as reflected in this cash tab of

23   Exhibit 8?

24   A.   My understanding of those entries is that as of

25   the 31st of May, they were the positions, the different

1   tokens, or -- that were held on the FTX platform by

2   Three Arrows.

3   Q.   There is -- Column D of this spreadsheet

4   references Paxus balance, P-A-X-U-S.

5   Do you see that?

6   A.   I do.

7   Q.   Do you have an understanding of what that

8   means?

9   A.   My understanding is that Paxus is the internal

10   accounting system. Again, my terminology. But the

11   system that Ascent uses to book and, therefore, prepare

12   its NAVs for its clients.

13   Q.   And then there's -- in Column I, there's a

14   reconciling items, and for each of those trades, there's

15   a notation that says "unreconcilable trades."

16   Do you see that?

17   A.   I do.

18   Q.   Do you understand what that means in the

19   context of this NAV pack?

20   A.   So if you -- if you look at Column D and then

21   you look at Column H -- if we take the first -- the

22   first line item, which is Rune, so Line 170 --

23   Q.   Yes.

24   A.   You will see that the Paxus balance is for

25   Rune 1,072,443, and then you'll see that the broker

1   amount -- so amounts available from statements that

2   would have come from the broker, either full or partial,

3   says that the number was 1,083,000.

4   Then there's a reconciling item unreconciled

5   trades, i.e., Ascent didn't have enough information to

6   choose one or the other, the difference there being

7   10,939 shown in Column J.

8   So it's effectively a reference to what that

9   reconciliation is.

10   Q.   So when you -- when the joint liquidators were

11   provided the May NAV pack on April 24th, 2023, you were

12   aware that Three Arrows had positions in -- in at least

13   these cryptocurrencies as of May 31, 2023; right?

14   That's what this reflects?

15   A.   It reflects the administrator's understanding

16   of that, yes. You will see that there's obviously quite

17   a few reconciling items because there was no longer

18   access to FTX at that point in time.

19   Q.   Understood.

20   And then there's -- if you continue down,

21   there's three entries, at Rows 194, 195, 196 that are

22   listed as -- as FTX defiance?

23   A.   Defiance.

24   Q.   Defiance.

25   What's your understanding as to that notation?

1   A.   So -- I'm trying to make sure I explain this

2   concisely.

3   Defiance is a -- what we call a sub portfolio.

4   It's a separated portfolio of the Three Arrows master

5   fund, and it's managed separately, or it was managed

6   separately, within the Three Arrows environment. But it

7   was legally part of and always remained part of Three

8   Arrows itself. They had different investors still via

9   its feeder funds who had different rights to -- who have

10   rights to the specific ups and downs, benefits and

11   losses, if you'd like, of the defiance portfolio itself.

12   So FTX defiance is a reference to where that

13   defiance sub portfolio interacted on behalf of that sub

14   portfolio only and not commingling everything with FTX.

15   Did that make sense?

16   Q.   It does.

17   With respect to assets held by the defiance,

18   were the defiance assets within the scope of the 3AC

19   liquidation?

20   A.   They were and they are.

21   Q.   They are still?

22   A.   Yes. There is an ongoing dispute, legal

23   dispute, with respect to the ownership of those assets,

24   but they are assets that are within the scope of the

25   liquidation. It's not yet been fully determined whether

1   there is any third party direct interest in those

2   assets.

3   Q.   If you could look at -- there's another tab

4   within this document -- or within this file. It's

5   the -- the collateral and investments tab.

6   A.   Uh-huh.

7   Q.   Do you see that?

8   A.   I do.

9   Q.   And if you go down to Row 82 and 83 under the

10   crypto staking heading.

11   Did you see that?

12   A.   Yes, I do.

13   Q.   And there's two references there to FTX with

14   respect to FIDA and Serum tokens.

15   Do you see those?

16   A.   I do.

17   Q.   What's your understanding of what is reflected

18   in those positions?

19   A.   Yeah. Okay.

20   So what's reflected in those positions and my

21   understanding of what's reflected in those positions is

22   that on the FTX platform, the Three Arrows held a number

23   of feeder and SRM tokens, so 6.2 million feeder, 1.1,

24   1.2 in SRM, yeah, the balance which is Column C, which

25   were valued at that point in time 3.2 million rounded

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1   for that feeder and 1.3 million rounded for SRM.

2   The reference to crypto staking, I should say

3   that those tokens, as we saw before, were largely

4   locked. So they were only released to the benefit or to

5   the ability of 3AC to do anything particular in terms of

6   selling them over a period of time called the vesting

7   period. The majority had invested either at this point

8   in time or the date of liquidation, but they were to

9   vest into wallets on the FTX platform.

10   Where it says in Row 79 "crypto staking,"

11   that's a process where some of the holder of a crypto

12   token, whether it's vested or not, very much depends on

13   the token, can effectively stake that token to be used

14   for the benefit of the protocol of that token as part

15   of -- and you can earn rewards for -- for staking that

16   token, which may be, you know, additional tokens. It

17   may be some other form, if you will.

18   So those tokens were staked, as what this NAV

19   pack says, which would have occurred some -- some

20   benefit to Three Arrows issuing the staking award.

21   Those are the same tokens that we've referred

22   to before as still being there at the point in time

23   Three Arrows went into liquidation on the 27th of June.

24   Q.   In discussing the NAV packs, you refer -- you

25   refer to in your declaration that information -- the

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1   information that is sent utilized in preparing the NAV

2   packs came from the investment manager for 3AC, 3AC

3   Limited BVI; right?

4   A.   That's correct, yes.

5   Q.   And what -- what is the relationship between

6   the investment manager entity and 3AC?

7   A.   So the investment manager is retained by,

8   engaged by, 3AC to manage its investments. So that

9   effectively means to manage its day-to-day activities.

10   Q.   Did the joint liquidators obtain information

11   from the investment manager as part of its investigatory

12   work?

13   A.   As you will see from my declaration, very, very

14   little. It required us -- and I suspect you may want to

15   go into this in some more detail, but significant

16   efforts were required to obtain what little information

17   we could.

18   Q.   So can you expand on -- so the little

19   information that you could, what's the scope of the

20   information you were able to obtain from the investment

21   manager?

22   A.   Very limited. So nothing -- in terms of direct

23   information, without having to go via cold presses to

24   get access to service, to get access to offices, to get

25   access to safe deposit boxes, nothing was voluntarily

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1   produced to us with the potential exception, depending

2   on how one characterizes of it -- characterizes it, the

3   spreadsheet we previously referred to, that one printed

4   out in this sort of format would be about two pages long

5   on letter size paper. We have three iterations of that.

6   And then in the -- in the context of the

7   investment manager, I would also classify the

8   less-than-90-minute conversation we had with one of the

9   founders, Su Zhu, and the very specific

10   less-than-60-minute conversation we had with Kyle

11   Davies, which was just about trying to get us access to

12   certain exchanges.

13   I'll get one step over now to say that with

14   respect to our ongoing information requests by the

15   Singapore court and the investment manager, that led

16   ultimately to the incarceration of Su Zhu in his role as

17   the controller or the director, the founder of the

18   investment manager, and on outstanding incarceration for

19   Kyle Davies due to their -- the extreme lack of

20   cooperation.

21   Q.   In preparing the NAV packs, as I understand it

22   from your testimony, Ascent had access to certain

23   information from the investment manager; correct?

24   A.   That's correct. All that information being

25   provided prior to the liquidation.

1   Q.   And that information that was reviewed and

2   relied on by Ascent in preparation of the NAV packs, has

3   that information been made available to you?

4   A.   Ascent has provided to us what we understand to

5   be the information that they hold.

6   Q.   They have?

7   A.   So --

8   Q.   They have provided it?

9   A.   They have provided it to us, yes.

10   Q.   In responding to -- in the joint liquidators'

11 response to FTX's document request related to your

12 declaration and your -- the pending motion in this

13 deposition, did you -- would you have searched the

14 documents you do have from the investment manager as

15 part of that process?

16   MR. HARRIS: Object to the form.

17   THE WITNESS: We --

18   MR. HARRIS: It's also -- that's not -- that's

19   outside the scope of the 30(b)(6). But you're

20   asking him in his personal capacity, I guess?

21   MR. GLUECKSTEIN: I think we -- I think we have

22   a right to understand if -- if documents were

23   searched from the investment manager as part of the

24   response to this discovery. It's --

25   MR. HARRIS: Yeah. But this is a deposition.

1   So you can ask counsel any questions you want.

2   I mean, you also can ask him in his personal

3   capacity. I'm just trying to clarify what you're

4   asking.

5   BY MR. GLUECKSTEIN:

6   Q.   Well, let's start with do you have an

7   understanding as to whether any documents possessed by

8   the joint liquidators that originated with the

9   investment manager were searched and produced, if

10   responsive, in response to our document request?

11   A.   Yes.

12   Q.   Okay. I think we can put the NAV pack aside

13   for now. Thank you.

14   A.   Sure. I'll pass this back.

15   Q.   Oh, sorry about that.

16   MS. LIU: Thank you.

17   MR. GLUECKSTEIN: Thanks, Sienna.

18   THE WITNESS: Thank you.

19   BY MR. GLUECKSTEIN:

20   Q.   Paragraph 37 of your declaration, if you turn

21   back to your declaration, you discuss the lack of, as

22   you put it, "significant material information," and you

23   list certain items there in bullet points.

24   Do you see that?

25   A.   Yes. I'm just reading the paragraph.

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1   Q.   Yes, sir. Of course.

2   A.   That's quite sure -- can you just ask the

3   question again just to make sure I didn't miss anything

4   from it?

5   Q.   I'm just asking -- so my question simply was

6   you state there that you lack significant material

7   information, and then you give examples in bullet point

8   form of types of information there in Paragraph 37; is

9   that right?

10   A.   That's correct.

11   Q.   You did have at the time you filed your

12 original proof of claim the Ascent NAV pack, including

13 the one we were just looking at; correct?

14   A.   Yes, that's correct. We received it just over

15 a month before.

16   Q.   And as we talked about this morning, prior to

17 November of 2022, you had access from the period of July

18 to November to the FTX exchange account directly?

19 That's correct?

20   MR. HARRIS: Object to the form.

21   THE WITNESS: That's correct.

22 BY MR. GLUECKSTEIN:

23   Q.   Okay. Are you aware, Mr. Crumpler, the FTX

24 debtors filed for bankruptcy protection in November of

25 2022; correct?

1   A.   I am aware, yes.

2   Q.   And following the bankruptcy filing of the FTX

3 debtors in November of 2022, neither the joint

4 liquidators nor anyone on their behalf contacted the FTX

5 debtors or their representatives about 3AC until

6 June 28th of 2023; correct?

7   A.   I understand that to be correct. I would say

8 that -- that certainly we would not put any of that

9 correspondence, should there have been any, in my

10 declaration. So --

11   Q.   Okay. In Paragraph 38 of your declaration, you

12 state that "I understand that prior to the filing of our

13 original POC, our United States counsel requested that

14 FTX provide any documents concerning the apparent

15 lending relationship between the parties."

16   Do you see that?

17   A.   I do.

18   Q.   Okay. And it's correct that that first request

19 that was directed to FTX -- to the FTX debtors came on

20 June 28th, two days before the claim needed to be

21 submitted; correct?

22   A.   If that's what it says in the declaration,

23 then, yes.

24   Q.   You don't have a recollection or knowledge of

25 anybody on your team on behalf of the joint liquidators

1   requesting any documents or information from the FTX

2   debtors between November 2022 and June 28th, 2023;

3   correct?

4   A.   I don't have a recollection. That's correct.

5   (Defendants' Exhibit Number 9, Proof of Claim,

6   was marked for Identification.)

7   MR. GLUECKSTEIN: I'm going to mark this as

8   Exhibit 9.

9   BY MR. GLUECKSTEIN:

10   Q.   Mr. Crumpler, are you familiar with the

11   document that's been marked as Exhibit 9?

12   A.   Yes, I am.

13   Q.   Can you identify what that document is.

14   A.   So that document is -- given its formal title,

15   it is the proof of claim submitted into the bankruptcy

16   for FTX and then the attachment to that claim. And the

17   proof of claim, obviously filed by Three Arrows Capital

18   Limited.

19   Q.   And this is a proof of claim.

20   If we look at -- they don't have Bates numbers

21   on them, but if you look at Page 4 to the actual claim

22   form, there's a signature there.

23   A.   Yes.

24   Q.   And it's identified with your name under it.

25   Is that your signature?

1   A.   It is, yes.

2   Q.   And you submitted this proof of claim on behalf

3   of the joint liquidators of Three Arrows Capital;

4   correct?

5   A.   That's correct. Well, on behalf of Three

6   Arrows Capital --

7   Q.   On behalf of Three Arrows.

8   A.   -- in my capacity as joint liquidator. I don't

9   have a personal claim.

10   Q.   Okay. And if we could look at the attachment

11   to the proof of claim form -- if we could look at

12   Paragraph 6 of Page 3 of that attachment.

13   A.   Uh-huh, yes.

14   Q.   Okay. There's a reference there to a term that

15   you define as "known claims."

16   Do you see that?

17   A.   Yes.

18   Q.   And there's a reference in that paragraph to a

19   "purported foreclosure by the debtors on collateral

20   securing an approximately $120 million purported loan

21   the Three Arrows owed to the debtors as of June 1st,

22   2022."

23   Do you see that?

24   A.   I do.

25   Q.   And is that foreclosure on collateral securing

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1   an approximately $120 million loan, the loan that we

2   looked at in Exhibit 8 in the May 2022 NAV pack that was

3   referenced?

4   MR. HARRIS: Object to form.

5   THE WITNESS: That -- that purported

6   foreclosure on the purported loan is by reference to

7   the 120 million that we referred to on I believe

8   Line -- Row 120 -- 110 of the loan schedule of the

9   NAV pack, which was your Exhibit 8.

10   BY MR. GLUECKSTEIN:

11   Q.   So you used the language "purported

12   foreclosure."

13   What are you -- what are you referencing by

14   using those words?

15   A.   Well, when we reached liquidation -- excuse

16   me -- we reached liquidation of Three Arrows on the 27th

17   of June, 2022, so 27 days after. That loan was showing

18   in the NAV pack.

19   As of that date, we asked all potential

20   creditors to submit claims into the liquidation. There

21   were no claims submitted by FTX for $120 million. There

22   was no mention of any claims by FTX in our

23   correspondence with them, and indeed we were given

24   access to what was the remaining -- I think in value, so

25   it was $3.4 million approximately of the date of

1   appointment of tokens that we had left with FTX.

2   So by the fact that there was no -- no claims

3   submitted, we had to issue that it had been paid -- it

4   had been satisfied in that intervening period and,

5   therefore, was a preference or other similar sort of

6   transaction, which is an independent, i.e. unbiased,

7   liquidator who has to act in the interest of my own

8   creditors, warrants us to submitting a claim into the

9   liquidation of FTX.

10   It was based on the very limited information we

11   had at the time. So at this point in time, we still had

12   no idea of the magnitude of the trading relationship

13   between Three Arrows and FTX, albeit we could obviously

14   see some numbers from the NAV.

15   Q.   There's no -- there are no specific claims for

16   tokens or other assets that were identified in this

17   proof of claim; correct?

18   MR. HARRIS: Object to the form.

19   THE WITNESS: Identified? Can you define

20   "identified" to me, please.

21   BY MR. GLUECKSTEIN:

22   Q.   Is there anywhere in this proof of claim where

23   you have asserted a claim for a specific cryptocurrency

24   token?

25   MR. HARRIS: Object to the form.

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1   THE WITNESS: And I do not see anywhere in this
2   claim where we have mentioned a specific token which
3   we have a specific claim to. Arguably, we should
4   have mentioned the residual SRM and feeder tokens,
5   relatively small in the con- -- in the overall level
6   of our claim.
7 BY MR. GLUECKSTEIN:
8   Q.   If you could, sir, please -- if you could look
9 back at your declaration one more time.
10   A.   Sure.
11   Q.   Paragraph 39 of your declaration.
12   A.   Okay.
13   Q.   And Paragraph 39 references an information
14 sharing agreement reached on October 10th, 2023, between
15 the FTX debtors and the joint liquidators on behalf of
16 3AC; correct?
17   A.   That's correct.
18   Q.   And you go on to state that FTX produced
19 documents in four separate rounds, in December and
20 January -- in December 2023 and January of 2024;
21 correct?
22   A.   That's correct.
23   Q.   And between February and April of 2024, the
24 joint liquidators or those acting on their behalf asked
25 questions about the information that was produced by the

1   FTX debtors; correct?

2   A.   Yes, that's correct.

3   Q.   And the FTX debtors provided answers to those

4   questions; correct?

5   MR. HARRIS: Object to the form.

6   THE WITNESS: The FTX debtors did provide us

7   some answers with respect to that information but

8   largely left it to us to work out how to collate

9   that information. I think it's worth stating how

10   that information came to us.

11   It basically came -- it didn't come to us in

12   the form that FTX had already analyzed as per its

13   internal presentations in October, I believe, 2023.

14   It came to us in the equivalent of lots of bin bags

15   of torn-up, shredded data, which we had to pull

16   together.

17   So FTX could have given us that information in

18   a much more simplistic form because they had already

19   conducted that analysis themselves.

20   BY MR. GLUECKSTEIN:

21   Q.   Is your testimony that the FTX debtors provided

22   you raw data or that they somehow --

23   A.   No, they put --

24   Q.   -- shredded data?

25   A.   Raw data. I'm giving you the equivalent --

1   Q.   Yeah.

2   A.   -- of what one had to do in the real world in

3   a -- so that's like going for a bin and putting

4   spreadsheets back together when that exercise had

5   already been undertaken by FTX. So you gave us raw

6   data, millions of lines of it.

7   Q.   In fact, you had calls in that period of time,

8   February to April, not only with -- with representatives

9   of the FTX debtor, including their financial advisers,

10 to answer questions about the information that had been

11 provided; correct?

12   A.   We had a very limited number of calls.

13   Q.   There were, in fact, calls with the FTX

14 debtor's financial adviser; correct?

15   A.   Correct.

16   Q.   Paragraph 45 of your declaration, take a look

17 at that, please, sir.

18   A.   Okay.

19   Q.   And you state in Paragraph 45 that "FTX has yet

20 to provide answers to basic questions," and you put an

21 example, quote "... such as the basis for approximately

22 700 million out of the 1.3 billion of the 3AC Debtor's

23 alleged liabilities."

24   Do you see that?

25   A.   I do.

1   Q.   Okay. And what's your basis of -- of your

2   statement there, "the 1.3 billion of 3AC Debtor's

3   alleged liabilities"?

4   MR. HARRIS: Object to form.

5   THE WITNESS: Could you repeat the question,

6   please.

7   BY MR. GLUECKSTEIN:

8   Q.   Sure.

9   What is the basis behind the statement that you

10   include in your declaration referencing 1.3 billion of

11   the 3AC Debtor's alleged liabilities?

12   MR. HARRIS: Same objection.

13   THE WITNESS: So taking the data provided to us

14   by FTX in -- in middle of December 2023 onwards,

15   when we finally were able to analyze that data to

16   the point where we could put it into a format that

17   was understandable, we could see that that data

18   purported to show 1.59 billion of assets at the

19   beginning of 12th of June, 2022, and $1.3 billion of

20   purported liabilities.

21   Obviously, it didn't show all the documents

22   that led to those assets and liabilities. It didn't

23   show all the individual loan agreements,

24   transaction, instructions, etc., but that's what we

25   mean by purported or alleged liability.

1   It pretty much matches within $1 million or so

2   the -- the analysis that FTX itself performed, and

3   you can see in -- in the internal reports that had

4   been disclosed to us.

5   So the end of that process -- that long

6   process, we got to the same place as FTX. It says

7   "alleged liabilities" because there is a sort of

8   dearth of documentation and answers with respect to

9   how some of those liabilities came about.

10 BY MR. GLUECKSTEIN:

11   Q.   And you referenced 700 million of the

12 1.3 billion.

13   So is it your testimony that the basis for the

14 other 600 million has been understood at this point?

15   A.   It's certainly better understood, yes. If you

16 refer to the proof of claim that we submitted, there are

17 further details on that. And I said the amended proof

18 of claim, just to be clear.

19   Q.   Paragraph 41 of your declaration, if you could

20 flip back a couple pages, on Page -- it starts at the

21 bottom, Page 16.

22   A.   Okay. I've read that paragraph.

23   Can I make a note with respect to that

24 paragraph just before you ask me questions upon it? We

25 say in there "approximately 1.53 billion of assets on

1   the platform."   That should read "1.59 billion."

2   The reason for that difference is that there

3   were a number of -- during that -- those two days of

4   liquidation, it looks like there were a small amount

5   that was effectively, you know, liquidated, moved, etc.,

6   outside of the general closure process.

7   So that's why when we talk about 1.53 billion,

8   that is the -- that is what we say FTX used or appeared

9   to have used to satisfy the alleged liability of

10   1.3 billion.

11   Q.   Okay. And how did you -- how did you arrive at

12   that $1.53 billion figure? Where does it come from?

13   A.   It comes from the careful and painstaking

14   analysis of the raw data provided to us on the 14th of

15   December, 2023, onwards. And I believe it largely

16   equates to within a few million dollars of the analysis

17   that FTX itself and its advisers had performed.

18   Q.   In Paragraph 42 of your declaration, if you

19   could look at that briefly.

20   A.   Okay.

21   Q.   You state in Paragraph 42, in the first

22   sentence, that "Between the close of business on

23   June 12th, 2022, and the close of business on June 14th,

24   2022, nearly all of those assets were liquidated."

25   Do you see that?

1   A.   I do.

2   Q.   What is the basis for you to conclude that

3   nearly all of those assets were liquidated?

4   A.   Our analysis of the data provided to us from

5   the 14th of December, 2023, onwards, noting that that

6   analysis largely correlates within a small margin of

7   error to the analysis that FTX itself has performed.

8   Q.   When you say "... nearly all of those assets

9   were liquidated," are you taking a position as to who

10 liquidated them?

11   A.   We are taking the position at the moment that

12 FTX liquidated those assets.

13   Q.   And what is the basis of your position that FTX

14 liquidated all of those assets?

15   A.   We've seen no communications from Three Arrows

16 to FTX instructing FTX to liquidate those assets, and we

17 have -- somewhat ironically, if you like, on the 13th of

18 December, 2023 -- actually, over two days, the 12th and

19 the 13th of December, we were finally able to examine Su

20 Zhu, one of the founders of Three Arrows, in front of

21 the Singapore court -- I shouldn't say "we."

22   Our Singapore counsel were able to examine him

23 and basically at the end of his incarceration and ask

24 certain questions of him in front of the Court. I

25 call -- I think the term is registrar in Singapore. So

1   effectively junior judge. And one of the statements he

2   made -- it was just the day before we got the data --

3   was that FTX liquidated all the bitcoin that Three

4   Arrows held off their own bank.

5   Even at that point in time, we didn't know the

6   value of that bitcoin.

7   Q.   In your $1.53 billion assets being liquidated

8   number, are you including withdrawals by 3AC from the

9   FTX platform?

10   A.   No. So when I talk about 1.59, as I referenced

11   before, and 1.3, some of that gap is a withdrawal by

12   Three Arrows.

13   Q.   In the $1.53 billion number, are you including

14   the impact of market price decline over the liquidation

15   period of June 12th to 14th in that number?

16   A.   In -- I'm sorry. Can you try and ask that

17   question a different way, please.

18   Q.   Does your $1.53 billion number take into

19   account the decline in market value by the end of the

20   day on June 14th, 2022?

21   MR. HARRIS: Object to the form.

22   THE WITNESS: The $1.53 billion number is the

23   value as of the beginning of the 12th -- I'm sorry,

24   the 12th -- I'm sorry, the close of business on the

25   12th of June, 2022. By the time we get to close of

1   business on June the 14th, 2022, virtually every

2   asset owned by Three Arrows on the FTX platform had

3   been liquidated.

4   BY MR. GLUECKSTEIN:

5   Q.   So your value of $1.53 billion in assets is

6   using pricing as of June 12th, 2022; correct?

7   A.   Yes, that's correct.

8   If we can take a break fairly soon, that would

9   be appreciated.

10   MR. HARRIS: We've been going about an hour.

11   Whenever you're good.

12   THE WITNESS: Yeah, I don't mind. Finish off

13   this train of --

14   MR. GLUECKSTEIN: We can take a break now.

15   That's perfectly fine.

16   THE WITNESS: Okay.

17   MR. GLUECKSTEIN: Why don't we take ten

18   minutes? I'm trying to streamline.

19   MR. HARRIS: Okay.

20   (Thereupon, a recess was taken, after which the

21   proceedings continued as follows:)

22   MR. GLUECKSTEIN: Ready?

23   THE COURT REPORTER: Yes.

24   MR. GLUECKSTEIN: All right.

25   THE WITNESS: Yes.

1   MR. GLUECKSTEIN: Back on the record.

2   BY MR. GLUECKSTEIN:

3   Q.   Mr. Crumpler, if we could just turn to

4   Paragraph -- back to your declaration one more time.

5   A.   Okay.

6   Q.   Paragraph 24 on Page 8.

7   A.   Okay.

8   Q.   On Paragraph 24, you discuss the examination of

9   Mr. Zhu, who is, as we discussed earlier today, one of

10   the founders of 3AC; correct?

11   A.   That's correct, yes.

12   Q.   Can you provide just a little bit of context

13   for the occurrence of these examinations on

14   December 12th and 13th of 2023?

15   A.   Yes.   The -- so since the commencement of the

16   liquidation -- and I probably should -- I'm not going to

17   try and give you a novel of back-and-forth.

18   But since the commencement of the liquidation,

19   we've been seeking to get assistance and information

20   from the founders from the -- because one would expect,

21   particularly in a situation where, as I said earlier,

22   the founders themselves were seeking to put the company

23   into liquidation, your expectation is full and immediate

24   cooperation --

25   Q.   Uh-huh.

1   A.   -- full access to offices, access to the

2   investment manager and the entire teams so that you

3   understand everything that is going on. We had exactly

4   the opposite of that.

5   Mr. Farmer turned up on I think the 29th of

6   June in Singapore to find the offices locked and was

7   unable to meet with anyone during that first trip. That

8   correlated in a whole series of applications in

9   different jurisdictions to get the cooperation from the

10   founders, which was not forthcoming.

11   And then ultimately the judge in Singapore

12   became concerned enough with respect to the lack of

13   cooperation by the founders that he sentenced them to

14   four months in prison for -- and the term is their

15   intentional noncompliance with the Singapore information

16   holder.

17   And then as part of that process -- that

18   overall process, different applications, ordered that Su

19   Zhu be formally examined in the court. Initially, that

20   examination was choose to take place in November -- in

21   mid-November, and I had flown to Singapore to physically

22   attend the examination.

23   At the last minute, he managed to make --

24   Mr. Zhu managed to make an application that it should be

25   postponed to the 12th and the 13th of December to allow

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1   him time to prepare because whilst in his -- his prison

2   cell, he didn't have access to all the books and records

3   he needed, which apparently he had already given to us

4   when he had them with him.

5   So we get to the 12th and the 13th. We had

6   agreed reluctantly that he could be let out of prison on

7   house arrest -- so he had an ankle bracelet on -- in

8   order to prepare for his examination. That examination

9   took place on the 12th and the 13th of December, 2023.

10   Which, given we have a time difference with Singapore,

11   it was particularly fun for myself and Mr. Farmer to

12   attend.

13   Q.   And you did attend that examination by Zoom?

14   A.   We attended by Zoom. We were -- it was -- in

15   either sense, it was in a listening capacity as opposed

16   to -- we were not doing the examination ourselves. It

17   was being conducted by our one partnership, our

18   Singapore lawyers.

19   Q.   Okay. You state in Paragraph 24 of your

20   declaration, the second sentence, on December 13th,

21   2023, "Mr. Zhu stated that FTX had unexpectedly sold off

22   all the bitcoin belonging to the 3AC Debtor, trend

23   valued at $711 million on June 12th, 2022, according to

24   FTX's own records."

25   Do you see that portion of your testimony?

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1   A.   I do.

2   Q.   Okay. How did you arrive at the $711 million

3   figure that's in your declaration?

4   A.   So on the 14th of December -- so the day after

5   that statement by Mr. Zhu -- just to be clear, he did

6   not provide us a value statement with respect to the

7   bitcoin liquidated.

8   On the 14th of December, 2023, FTX began the

9   turnover of the raw data necessary for us to begin

10   recon- -- reconstruction would have happened.

11   Once we've done that reconstruction, we were

12   able to see that it was valued at 7- -- the bitcoin was

13   valued at $711 million, and that we also understand a

14   course to the analysis that FTX themselves conducted

15   using the same records that we were given.

16   Q.   Do the joint liquidators -- have the joint

17   liquidators viewed Mr. Zhu's testimony on December 12th

18   and 13th, 2023, as credible testimony?

19   A.   Have we viewed it as credible testimony?

20   MR. HARRIS: Object to the form.

21   THE WITNESS: There are large parts to that

22   testimony which are clearly credible. There are

23   parts to that testimony which are -- what's the best

24   way of phrasing it? Clearly attempts by Mr. Zhu to

25   justify his own wrongdoings. There is nothing with

1   respect to the FTX testimony that he gives that

2   makes or suggests as not credible. It doesn't aid

3   him in any way saying that.

4   BY MR. GLUECKSTEIN:

5   Q.   Have you relied on Mr. Zhu's testimony in any

6   court proceedings to date?

7   A.   We rely on Mr. Zhu's testimony with respect to

8   our FTX claim. With respect to how it's handled in

9   other non-U.S. court proceedings, I would probably have

10   to discuss that with my counsel. I'm not quite sure

11   what is public record and what isn't. And I can step

12   out and do so if you want me to.

13   Q.   I mean -- well, if you need to discuss a

14   privilege issue with your counsel, you should do that if

15   there's a privilege or protection issue.

16   But my question is simply I'm just trying to

17   understand whether you have relied on Mr. Zhu's

18   testimony in submitting his testimony in any court other

19   than in connection with your claim against FTX?

20   MR. HARRIS: I guess, why don't we take a break

21   and see if there's a privilege question the witness

22   has.

23   MR. GLUECKSTEIN: Okay. Sure.

24   MR. HARRIS: This will be quick.

25   THE WITNESS: I'll be right back.

1   MR. HARRIS: You can all just sit here and

2   we'll be right back.

3   (Thereupon, a recess was taken, after which the

4   proceedings continued as follows:)

5   MR. HARRIS: Okay. Are you ready?

6   So why don't we designate this highly

7   confidential and I'll say when we should go off it,

8   and then why don't you ask your question again?

9   MR. GLUECKSTEIN: Okay. That's fine.

10   BY MR. GLUECKSTEIN:

11   Q.   Mr. Crumpler, just to reiterate my question,

12   have the joint liquidators submitted or relied on

13   Mr. Zhu's examination testimony in submissions to any

14   court proceeding other than in connection with your

15   claim against FTX?

16   A.   Yes, we have. We've relied upon it and used it

17   as part of the submissions and process -- forgive me,

18   I'm not using perfect legal term and parlance -- in the

19   British Virgin Islands where we sought a worldwide

20   freezing order as against Mr. Zhu; Kyle Davies; and Kyle

21   Davies' nominee, his wife, Kelly Chen, and it was the

22   end of -- or beginning of 2024, end of 2023.

23   Q.   So that was in connection with action that you

24   took against the founders?

25   A.   That's correct, yes.

1   Q.   Have you relied on Mr. Zhu's testimony in any

2   court proceeding with respect to advancing claims of the

3   3AC Debtor, other than claims against the founder?

4   A.   Not to my immediate knowledge.

5   Q.   Thank you.

6   MR. HARRIS: Are you done with that --

7   MR. GLUECKSTEIN: Yes, I'm done with that.

8   MR. HARRIS: Okay. We can go off the highly

9   confidential designation.

10   MR. GLUECKSTEIN: Thank you.

11   I'm going to mark the -- what are we up to, the

12   next one?

13   MS. LIU: 10.

14   MR. GLUECKSTEIN: -- as Exhibit 10. I'll ask

15   the court reporter to mark this transcript as

16   Exhibit 10, if you want it.

17   (Defendants' Exhibit Number 10,

18   3AC-FTX-00533487723, was marked for Identification.)

19   THE WITNESS: Sure.

20   BY MR. GLUECKSTEIN:

21   Q.   Mr. Crumpler, what's been marked as Exhibit 10

22   is a copy of the transcript, which was produced to us of

23   Mr. Zhu's testimony on -- or oral examination, I should

24   say, on the 13th of December 2023.

25   Have you reviewed this transcript before?

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1   A.   I have, yes.

2   Q.   Did you review this transcript in connection

3   with testifying today?

4   A.   I did, yes.

5   Q.   And did you review this transcript in

6   connection with preparation of your declaration?

7   A.   Yes.

8   Q.   Okay. If you could, sir -- if you could turn

9   to Page 115 of the transcript, which in the lower right

10   is Page 533603.

11   A.   Okay.

12   Q.   There's testimony on Page 115 from Mr. Zhu that

13   discusses FTX and carries over onto Page 116. And in

14   particular, I'm focused on starting at Line 1 -- Line 18

15   on Page 115. Do you see that?

16   It says there, quote, in response to a question

17   from joint liquidators' counsel in part, Mr. Zhu states

18   "So on top of that, we never expected that FTX, one of

19   the largest counterparties and exchanges where we

20   traded, was actually going to sell off not only all the

21   bitcoin that we had on the exchange but other exchanges,

22   which is well-documented, but also to actually sell

23   positions directly against us and internalize those."

24   Do you see that testimony?

25   A.   I do.

1   Q.   Is that testimony from Mr. Zhu the basis for

2   your statements in Paragraph 24 of your declaration?

3   MR. HARRIS: Object to the form.

4   THE WITNESS: That -- that testimony from

5   Mr. Zhu is partially the basis for some of the

6   statements I make within Paragraph 24.

7   BY MR. GLUECKSTEIN:

8   Q.   Can you -- sitting here today, are you able to

9   identify other statements that you're relying on in

10   Paragraph 24 with respect specifically to FTX selling

11   off all of the bitcoin belonging to the 3AC Debtor?

12   A.   Sorry.   Could you just repeat that question?

13   Q.   Can you identify any other information or

14   statements that you're relying on for the statement in

15   Paragraph 24 of your declaration where you state Mr. Zhu

16   stated that FTX had unexpectedly sold off all the

17   bitcoin belonging to the 3AC Debtor?

18   A.   Obviously, I rely on Mr. Zhu stating in this

19   testimony, so that statement comes from here.

20   Where I say my statements in 24 only partially

21   relate to this statement within his testimony, clearly

22   the first -- I'm being very precise, the first

23   statements in Paragraph 24 are about my attendance at

24   that examination.

25   The value statements are based on the

1   information obtained from FTX as opposed to a number

2   that Mr. Zhu gave us. And the fact -- we further

3   analyzed that those positions had been liquidated

4   corresponded with what Mr. Zhu stated. He has not

5   stated to us anywhere else, because this is the only

6   chance we've had to examine him, that FTX liquidated

7   those bitcoins.

8   Q.   And in this statement on Page 115 of his

9   testimony, there was no discussion in the context of the

10   questioning about the specific liquidation of the 3AC

11   FTX account; correct?

12   A.   Within this statement, that is correct. I have

13   obviously not got the benefit of two days' worth of

14   transcripts and all the other questions that were asked

15   of him. But within that statement, yes, that's correct.

16   Q.   If you could turn to Page 133 of the --

17   Exhibit 10. Starting at page -- at Line 21 of the

18   transcript, do you see there's a Q & A there?

19   A.   Starting "I'm going to move on to" --

20   Q.   Yes. The questioner asks Mr. Zhu "I'm going to

21   move on into June 2022, that's when the market continued

22   its spiral."

23   Mr. Zhu answers "yes."

24   A.   Okay.

25   Q.   The questioner continues, "And you were facing

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1   more short-term recalls; correct?"

2   Mr. Zhu answers "yes."

3   And then the next question is do you have to --

4   "do you have to start liquidating assets at that time?"

5   And Mr. Zhu responds "I believe in mid-June, we

6   had to start liquidating positions."

7   Do you see that?

8   A.   I do.

9   Q.   And so it's your understanding that Mr. Zhu

10   testified in his examination on December 13th about the

11   need for 3AC to start liquidating assets at -- in June

12   of 2022; correct?

13   A.   Mr. Zhu's testimony says that "In mid-June, we

14   had to start liquidating positions," but he goes on to

15   specifically say "What happened was that BlockFi gave us

16   a call and said essentially, they were going to sell off

17   our positions because of a failure to meet the margin

18   call at a specific period of time, and I believe that

19   Galaxy filed a default notice because we didn't meet the

20   margin call within a couple of hours or so thereafter a

21   certain period of time."

22   And then it goes and talks about a general

23   position. There's no specific reference to FTX.

24   Q.   If we move on to Page 136 of his testimony,

25   there's a similar colloquy with respect to FTX there,

1   isn't there, where Mr. Zhu is asked "You will recall

2   some of the assets that you were liquidating; correct?"

3   And then Line 5, he answers "Sure, I think it

4   would have been mainly the pertaining perpetual

5   positions on FTX, so these would have been perpetual

6   swap loans with Bitcoin/Ether because there's no way to

7   sort of use that money because it's a liquidation of a

8   derivative, which would cause a realized loss in the FTX

9   account, but that wouldn't be sort of collateral

10   afterwards resulting from that, I guess."

11   Do you see that testimony?

12   A.   I do.

13   Q.   So Mr. Zhu did explain in that portion of his

14   testimony the need to liquidate at least perpetual

15   positions on FTX at that time; correct?

16   A.   He does explain that there would have been --

17   what he says is "I think there would mainly be

18   liquidating perpetual positions with FTX." So that is,

19   you know, future perpetual positions. That is different

20   than the bitcoin he's previously referenced --

21   previously referred to.

22   Q.   He then does go on in the next question. He is

23   asked "Did you liquidate any bitcoin?"

24   A.   Yeah.

25   Q.   And then he says "I don't think we were. I

1   don't think we liquidated any spot bitcoin"; correct?

2   That's his testimony?

3   A.   That seems to be his testimony, yes.

4   Q.   And to your knowledge, there's no other

5   testimony -- are you aware of any other testimony or

6   information provided by Mr. Zhu with respect to whether

7   they did or did not -- "they" being 3AC -- liquidate any

8   spot bitcoin, other than this statement?

9   A.   I'm not aware of any testimony. I'm obviously

10   not aware of everything Mr. Zhu has said in public since

11   the collapse of Three Arrows, of 3AC.

12   Q.   If we could turn to Page 183 of the transcript

13   of that exhibit.

14   At the top of the page, starting with Line 1 on

15   Page 183. Let me know when you're there.

16   A.   I'm there, yes, sir.

17   Q.   Okay. The questioner asks "So my understanding

18   is that in June 2022, when you were liquidating assets,

19   you mentioned that this was to avoid forced

20   liquidations; correct?"

21   Mr. Zhu answers "No, that was in discussion

22   with the FTX positions as well as some other

23   miscellaneous positions, which would have been to avoid

24   liquidations on those platforms."

25   Do you see that testimony?

1   A.   I do.

2   Q.   So Mr. Zhu was testifying that in June 2022,

3 positions were being liquidated to avoid their accounts

4 from being liquidated, presumably by FTX; correct?

5   MR. HARRIS: Object to the form.

6   THE WITNESS: It is not completely clear what

7   is in Mr. Zhu's mind when he makes that statement.

8 BY MR. GLUECKSTEIN:

9   Q.   You don't have an understanding of exactly what

10 Mr. Zhu is stating there; correct?

11   A.   No, I don't.

12   Q.   I think you said this earlier. There have been

13 no other off-the-record discussions with Mr. Zhu; is

14 that correct?

15   A.   That's correct. And apologies of smiling.

16   Q.   I understand, but I want the record to be

17 clear.

18   Have there been any examination or discussions

19 by the joint liquidators with Mr. Davies?

20   A.   No. The -- well, sorry. That's incorrect. We

21 have had one discussion with Mr. Davies, which happened

22 towards the end of August in 2022. At the outset of

23 that discussion, and his Singapore counsel attended that

24 discussion, we attempted to ask Mr. Davies about general

25 matters with respect to 3AC and were told in no

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1   uncertain terms that the only purpose of that call was

2   to seek to hand over access to certain exchanges -- or

3   certain exchange interfaces where we hadn't yet had

4   access granted to us.

5   And that's the only time we had spoken to

6   Mr. Davies. He apparently attended a call we had with

7   his lawyers in July. But at that time, both Mr. Davies

8   and Mr. Zhu were on black screen, muted, didn't say a

9   word for him. He has not yet returned to Singapore to

10   serve his sentence for noncooperation with us. And his

11   examination is outstanding in Singapore, albeit they're

12   appealing his need to be examined.

13   Q.   Are the joint liquidators aware of anybody

14   other than -- anybody associated with 3AC prior to the

15   liquidation proceedings who would have knowledge of the

16   3AC relationship with FTX?

17   A.   We are aware of people associated with 3AC who

18   may well have knowledge of the relationship with FTX.

19   Q.   Okay.

20   A.   I cannot say that they do have knowledge or did

21   have knowledge.

22   Q.   Who have you identified that may have knowledge

23   of the relationship with FTX?

24   A.   So the most likely people would be Ningxin --

25   it may be appropriate for me to give you that spelling

1   afterwards.

2   The senior trader, if you like, so key

3   go-between between 3AC and other counterparties. So

4   Kyle Davies and Su Zhu absolutely ran for errors,

5   Ningxin -- I'm getting a nod that I'm saying that

6   correctly -- was a more senior employee of the wide

7   entities. So I would expect her to have knowledge of

8   it. We have failed to make contact with her.

9   Q.   That was going to be my next question.

10   You have not been able to contact Ningxin?

11   A.   That's correct.

12   Q.   Are you aware of generally Ms. Zhang's location

13   in the world?

14   A.   We believe -- we believe she's in Singapore.

15   There is some indication that she may be in Singapore or

16   in Dubai.

17   Q.   Is there anybody else that the joint

18   liquidators have identified as possibly having knowledge

19   of the relationship with FTX who was associated with 3AC

20   prior to liquidation?

21   A.   The main other person we identified is an

22   individual called Josh Brown, who was effectively the

23   3AC IT manager. That may not have been his specific

24   title, but effectively the person responsible for the IT

25   systems.

```
 1        Q.    And are -- you have been in touch with

 2   Mr. Brown?

 3        A.    We have.

 4        Q.    Is there anybody else that the joint

 5   liquidators have identified as potentially having

 6   knowledge of the 3AC FTX relationship?

 7        A.    Not to my -- I don't have recollection of any

 8   individuals' names.  There would have been other people

 9   within the staff, but they were the key individuals.

10   This was a fund that despite its size was kept under

11   very close control of Kyle Davies and Su Zhu.

12        Q.    Are there any other -- are there other

13   positions that you've identified within 3AC, even if you

14   don't know who they are, that -- you know, that might

15   have -- if you don't have a name to it yet, as to who

16   might have knowledge of the FTX relationship?

17        A.    You're partially correct as to what I said

18   before.

19              I did not mention Arthur Chung.  So Arthur

20   Chung -- you may recall my talking about the defiance

21   portfolio.  So Arthur Chung was the principal in charge

22   of the defiance portfolio for 3AC, so he could speak to

23   his -- that portfolio specific, but if one looks back at

24   the NAV pack's quite small relationship with FTX, I'm

25   not aware that he had broader knowledge of the Three
```

1   Arrows general relationship with FTX.

2   Q.   And are you in contact -- are the joint

3   liquidators in contact with Mr. Chung?

4   A.   Yes, but we are in ongoing disputes with

5   Mr. Chung around the ownership of the defiance

6   portfolio.

7   Q.   Have you been able to speak to Mr. Chung about

8   the FTX accounts -- defiance?

9   A.   No.

10   Q.   No?

11   A.   No, we haven't.

12   As I say, we are in an ongoing dispute with

13   respect to the ownership of those assets, so also we

14   have a protocol in place regarding those assets held by

15   the defiance portfolio. Our conversations are very much

16   limited to what has been done with respect to those

17   assets in realizing value from them.

18   MR. GLUECKSTEIN: All right. If we could take

19   a five-minute break, I think we're about done.

20   (Thereupon, a recess was taken, after which the

21   proceedings continued as follows:)

22   MR. GLUECKSTEIN: We'll go back on the record.

23   So thank you very much, Mr. Crumpler. I have

24   no further questions. I appreciate your time today

25   and making yourself available here in Miami.

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1   THE WITNESS: Thank you.

2   MR. HARRIS: All right. Thank you.

3   MR. GLUECKSTEIN: Thank you, sir.

4   THE WITNESS: And thank you for making the

5   trip. Again, I appreciate it.

6   (Thereupon, the deposition was concluded at

7   2:45 p.m.)

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1   CERTIFICATE OF OATH OF WITNESS

2

3

   STATE OF FLORIDA   )

4   )SS:

   COUNTY OF MIAMI-DADE   )

5

6   I, VANESSA OBAS, RPR, Notary Public in and for the

7   State of Florida at Large, certify that the witness,

8   RUSSELL CRUMPLER, appeared before me on

9   November 25, 2024 and was duly sworn by me.

10

11   WITNESS my hand and official seal this

12   November 27, 2024.

13

                             _____

14   VANESSA OBAS, RPR

                             Notary Public, State of Florida

15   at Large

16

17   Notary #HH428338

     My commission expires: 3/13/2027

18

19   Produced Identification

     Type of Identification Produced: Driver's License

20

21

22

23

24

25

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1   REPORTER'S DEPOSITION CERTIFICATE

2

3   I, VANESSA OBAS, RPR, certify that I was authorized to

4   and did stenographically report the deposition of

5   RUSSELL CRUMPLER, the witness herein on

6   November 25, 2024; that a review of the transcript was

7   requested; that the foregoing pages numbered from 1 to

8   154 inclusive is a true and complete record of my

9   stenographic notes of the deposition by said witness;

10   and that this computer-assisted transcript was prepared

11   under my supervision.

12

13   I further certify that I am not a relative, employee,

14   attorney or counsel of any of the parties, nor am I a

15   relative or employee of any of the parties' attorney or

16   counsel connected with the action.

17

18   DATED this November 27, 2024.

19

20

       _____

21   VANESSA OBAS, RPR

22

23

24

25

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1   CHRISTOPHER HARRIS, ESQ.

2   chris.harris@lw.com

3   November 27, 2024

4   RE: In Re: FTX TRADING LTD., et al.

5   11/25/2024, Russell Crumpler (#7043486)

6   The above-referenced transcript is available for

7   review.

8   Within the applicable timeframe, the witness should

9   read the testimony to verify its accuracy. If there are

10   any changes, the witness should note those with the

11   reason, on the attached Errata Sheet.

12   The witness should sign the Acknowledgment of

13   Deponent and Errata and return to the deposing attorney.

14   Copies should be sent to all counsel, and to Veritext at

15   cs-ny@veritext.com.

16   Return completed errata within 30 days from

17   receipt of testimony.

18   If the witness fails to do so within the time

19   allotted, the transcript may be used as if signed.

20

21

22   Yours,

23   Veritext Legal Solutions

24

25

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1   In Re: FTX TRADING LTD., et al.

2   11/25/2024 - Russell Crumpler (#7043486)

3   E R R A T A   S H E E T

4   PAGE_____ LINE_____ CHANGE_____

5   _____

6   REASON_____

7   PAGE_____ LINE_____ CHANGE_____

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20   _____

21   REASON_____

22

23   _____   _____

24   Russell Crumpler   Date

25

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1   In Re: FTX TRADING LTD., et al.

2   11/25/2024 - Russell Crumpler (#7043486)

3   ACKNOWLEDGEMENT OF DEPONENT

4   I, Russell Crumpler, do hereby declare that I

5   have read the foregoing transcript, I have made any

6   corrections, additions, or changes I deemed necessary as

7   noted above to be appended hereto, and that the same is

8   a true, correct and complete transcript of the testimony

9   given by me.

10

11   _____   _____

12   Russell Crumpler   Date

13   *If notary is required

14   SUBSCRIBED AND SWORN TO BEFORE ME THIS

15   _____ DAY OF _____, 20___.

16

17

18   _____

19   NOTARY PUBLIC

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the

foregoing transcript is a true, correct and complete

transcript of the colloquies, questions and answers

as submitted by the court reporter. Veritext Legal

Solutions further represents that the attached

exhibits, if any, are true, correct and complete

documents as submitted by the court reporter and/or

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Exhibit Q

From:	Nacif.Taousse@lw.com
Sent:	Friday, April 5, 2024 8:16 PM
To:	acanale@alvarezandmarsal.com
Cc:	Glueckstein, Brian D.; Liu, Sienna; mblanchard@alvarezandmarsal.com; lkonig@alvarezandmarsal.com; kevin.baker@alvarezandmarsal.com; pmcgrath@alvarezandmarsal.com; zzExt-lryan; carnett@alvarezandmarsal.com; scoverick@alvarezandmarsal.com; Adam.Goldberg@lw.com; Tiffany.Ikeda@lw.com; nima.mohebbi@lw.com; jamie.malley@teneo.com; jacob.versteegh@teneo.com; kent.mcparland@teneo.com; russell.crumpler@teneo.com; christopher.farmer@teneo.com; Beller, Benjamin S.
Subject:	[EXTERNAL] RE: FTX/3AC - Confidential and Subject to FRE 408

Thanks very much Alex. We'll review.

Nacif Taousse

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From: Canale, Alexander <acanale@alvarezandmarsal.com>
Sent: Friday, April 5, 2024 6:12 PM
To: Taousse, Nacif (NY) <Nacif.Taousse@lw.com>
Cc: gluecksteinb@sullcrom.com; lius@sullcrom.com; Blanchard, Madison <mblanchard@alvarezandmarsal.com>; Konig, Louis <lkonig@alvarezandmarsal.com>; Baker, Kevin <kevin.baker@alvarezandmarsal.com>; McGrath, Patrick <pmcgrath@alvarezandmarsal.com>; Ryan, Laureen <lryan@alvarezandmarsal.com>; Arnett, Chris <carnett@alvarezandmarsal.com>; Coverick, Steve <scoverick@alvarezandmarsal.com>; Goldberg, Adam (NY) <Adam.Goldberg@lw.com>; Ikeda, Tiffany (CC) <Tiffany.Ikeda@lw.com>; Mohebbi, Nima (LA) <nima.mohebbi@lw.com>; jamie.malley@teneo.com; jacob.versteegh@teneo.com; kent.mcparland@teneo.com; russell.crumpler@teneo.com; christopher.farmer@teneo.com; bellerb@sullcrom.com
Subject: RE: FTX/3AC - Confidential and Subject to FRE 408

Nacif,

Please see below for responses to the queries in red.

Best regards,

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From: Nacif.Taousse@lw.com <Nacif.Taousse@lw.com>
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Subject: RE: FTX/3AC

⚠️ **[EXTERNAL EMAIL]: Use Caution**

Hi all,

We wanted to follow up on a few items that were discussed during our call last week and that A&M mentioned they would follow up on / confirm. Please see below for our list of those points:

1. Confirmation of suppression pricing dates. A&M advised that they suspected that suppression pricing applied only to dates on or following the date of the FTX petition, but were going to confirm.
   DOC12 uses suppression pricing throughout the file. DOC38 did not use suppression pricing. 3AC and their advisors should apply their own pricing assumptions.

2. Confirmation of the spreadsheets to which suppression pricing applies.
   See response to question 1. Other spreadsheets provided note where suppression pricing applies.

3. The list of tokens which are 'grouped' as USD and confirm which spreadsheets apply this grouping (we understand it is all except for the deposits and withdrawals sheets, but please confirm).
   Spreadsheets which apply this group are those which summarize balances:

Ticker in Transactions	Ticker in Balances
WUSDC	USD
BUSD	USD
USDC	USD
TUSD	USD
PAX_DEPRECATED	USD
USDP	USD
ALEPH_WH	ALEPH
WETH_WH	ETH
LINK_WH	LINACK
SXP_WH	SXP

UST_WH	USTC
FTT_WH	FTT
YFI_WH	YFI
SUSHI_WH	SUSHI
UNI_WH	UNI
HXRO_WH	HXRO
WUSDT	USDT
EUROC	EUR
BRL	BRZ
XCOPE	COPE
CREAM_WH	CREAM
FRONT_WH	FRONT
UBXT_WH	UBXT
AKRO_WH	AKRO
MATH_WH	MATH
HUSD	USD

4. Confirmation that tokens grouped as USD are always converted at 1:1 notwithstanding that the actual price of the relevant asset may not be exactly 1:1 on a particular day.
   When tokens are grouped as USD, yes.

5. Where column data in document 38 pulls from another spreadsheet, please confirm which spreadsheet it pulls from:

Column Header	Source Document
src	N/A
main_account_id	N/A
account_id	N/A
created_at	N/A
user_id	N/A
email	N/A
ticker	N/A
cumulative_size	N/A
airdrops	DOC56
balance_changes	DOC03
binary_option_fills	N/A - No Activity
borrows	DOC08
cancelled_withdrawals	DOC10
creations	N/A - No Activity
deposits	DOC05
fee_voucher_chgs	N/A - No Activity
fee_voucher_deds	N/A - No Activity
fiat_deposits	DOC05
fiat_withdrawals	DOC10
fills	DOC02
funding_payments	DOC01
interest_payments	DOC06
lends	DOC09
missing_lends	N/A - No Activity

net_transfers_to_options	N/A - No Activity
options_liquidations	N/A - No Activity
redemptions	N/A - No Activity
transfers	DOC11
withdrawals	DOC10
cumulative_usd	N/A

6. Versions of Documents 12 and 38 which include the futures contracts (currently excluded from both spreadsheets). Ideally, we would need USD value of the contracts at each date.
   Documents 12 and 38 are a daily summation of the underlying exchange data. See table prepared in response to question 5 above for the mapping of the data to the documents provided. 3AC and their advisors should use their own pricing assumptions.

Could the A&M team please provide their input on the above, and please let us know of any questions.

Many thanks,

Nacif Taousse

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Sent: Friday, March 8, 2024 4:16 PM
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Cc: Glueckstein, Brian D.; Liu, Sienna; Blanchard, Madison; Konig, Louis; Baker, Kevin
Subject: FTX/3AC
When: Tuesday, March 19, 2024 5:30 PM-6:30 PM (UTC-05:00) Eastern Time (US & Canada).
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